

The MILLING WORLD

and CHRONICLE OF THE GRAIN and FLOUR TRADE.

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THE RUSSIAN MILLING INDUSTRY.

THE Russian milling industry is designed for the home demands only, says Mr. F. Kreuter in The Austrian High-milling; the rye is ground on the flat-milling system to produce the flour for the leading article of diet of the Russian farmer, rye-bread. The motive powers in use are wind, water, horses, and on larger estates portable steam engines are utilized for the purpose. Russia offers a wide field for the milling industry, because the farmer will soon discover that it is more profitable to sell the grain and buy the flour, than to have the grain ground in the mill of his district where he loses on an average one-third of it by the dishonesty of the miller. But few preparations are made for the export of flour, but—it is beginning to attract attention. There are well furnished mills in Southern Russia which export their products, and although their number is limited, it is increasing rapidly. Moscow has for instance, a splendid location for the development of a large milling industry and will in the near future form a great Russian milling center. To illustrate the growth of the industry we quote the following figures: From 1857 to 1860 the export of flour amounted to 380,000 hectoliter; at present it has risen to 1,200,000 hectoliter. From 1000 metercentner of flour exported:

388.2 mcr. go to Sweden and Norway.	
304.0.....go to Turkey.	17.4.....go to Prussia.
168.1.....go to England.	9.5.....go to France.
24.8.....go to Austria.	1.1.....go to Italy.
18.9.....go to Netherlands.	107.7 to other countries.

It is perfectly safe to state that from the large sums of money, which are annually devoted to the development of Russian agriculture, a fair share is used for the increase of the milling industry, and before we know it, we will see the development of a Russian flour competition, the like we have witnessed in America. The transportation facilities have improved considerably during the past years. The vast empire is traversed by large navigable rivers which again are connected by well planned and well kept canals. But the transportation away from these waterways is poor and expensive, owing to the bad condition of the roads, so that shipments of large quantities can be carried on in winter time only, when the ground is frozen and covered with snow. At the storage station the grain is piled up high in bags in the open air and thus awaits the opening of navigation. The transportation of one metercentner of grain, (about $3\frac{3}{4}$ bushels) by water from Southern Russia to St. Petersburg, a distance of about 2500 miles costs something like \$1.20. The grain traffic on the Volga with its many tributaries presents a scene which can hardly be duplicated in America.

In the vicinity of Odessa we find the "Steppe", very similar to our prairies, and which was looked upon as desert lands 50 years ago. To-day it is extensively and profitably cultivated for grain. The habit of storing grain in the open air is almost universal on the railroad stations as well as on the river and canal grain depots, and until last year only Samara had well built storage rooms.

The railroads charge double rates in winter time as compared with summer, because then the competition with the water transportation ends. The roads leading to the

northern seaports transport annually between 120 and 150 million bushels of grain, and to the southern ports about 75 millions. About 4000 miles of railroad are built expressly for grain transportation, and the government guarantees 5 per cent of interest to the stockholders. About 600 steamboats, representing 50,000 horsepower, are kept busy on the various river systems in towing grain barges. In Ribinsk, 193 miles from St. Petersburg, the barges are unloaded by human labor; about 6000 men find employment here at such work, and this is the city where the first elevator was built a short time ago, marking the first step towards an improved system of grain handling in Russia.

A NOVEL INVENTION.

The cut on this page quite clearly represents Gehrich's Patent Glass Tube Joint, for use in flour mills, etc. This invention consists of a glass tube joint, which corresponds in size to, and is inserted in, the tin spouts used to convey grain, meal, etc., in the operation of grinding flour and other substances. A section of the spout is thereby rendered transparent, enabling the



G. HNRICH'S GLASS TUBE JOINT.

mill, or any one passing by, to see at a glance whether the contents of the spouts are properly running. By the use of this appliance the necessity of frequently opening spouts is avoided, and the consequent saving of time and flour is very important in an economical point of view. The glass tube is self-cleaning—simply requiring to be turned occasionally in its socket. These Tube Joints have been applied to every tin spout in the new Croton Flour Mills, recently erected by Messrs. Geo. V. Hecker & Co., of New York City, by whom the following testimonial was written:

CROTON FLOUR MILLS, 205 CHERRY STREET, NEW YORK, Feb. 19, 1884.
HERMANN GEHRICH, Esq.

Dear Sir: We are using your Glass Sections in our Croton Mills, and are much pleased with them, and consider them a useful addition to our spouts.

Yours truly, GEORGE V. HECKER & CO.
Parties ordering the patent glass tube joints should send the diameter of the spouts to be furnished therewith. Full information will be furnished on application to the inventor, H. Gehrich, 54 Rutgers street, New York city.

MILLING WHEAT.

In the last number of the *Millwright and Engineer* Mr. Harry S. Klingler of

Butler, Pa., has the following on this topic. All wheat is not milling wheat, though all can be milled. At first sight this assertion implies a contradiction. Seemingly, if all wheat can be milled, the logical conclusion is, all wheat is milling wheat. Abstractly considered, the last-named proposition is correct; but in the sense of actual practice and usage, milling wheat means more than simply wheat that can be milled into flour and offal. Some reference is had to the quality of the wheat. Whether the wheat is desirable for milling purposes, or not, the word *milling* is designed to convey. Such wheat, therefore, that is adapted to produce the desired results in milling, is properly called milling wheat.

To produce standard grades of flour, the importance of properly selecting the wheat will be apparent. Some is fit, a good deal totally unfit, for the purpose. Bad flour can be made out of good wheat, but never good flour out of bad wheat. This is practically illustrated in every wheat they mill. Here is a mill owner who has an excellent mill, thoroughly equipped with all the latest and best machinery; the miller is competent to manipulate the mill, and the flour takes the lead

not trifle with poor wheat. The poor wheat is always cheap as to the first cost, but this saving is small compared with the ultimate loss.

Locally, the miller may not experience any difficulty in procuring the right kind of wheat, and rejecting that which does not meet his requirements. He is acquainted with all the varieties, and is not likely to make a mistake. On wheat from other localities, however, the case is quite different. Two samples of wheat may, in outward appearance, be exactly alike, and the inherent qualities may be entirely dissimilar. On this account some millers are often seriously deceived. A mill that is using a regular grade of wheat from a certain locality can cause sad havoc "among" its patronage by adopting a strange wheat which seems equally as good as the other. Such a difference can exist in the constituent elements of the wheats that the one is unable, in any shape or form, to take the place of the other. One wheat makes a white, strong flour that is easily handled, while the other yields a flour not easily baked, and when baked, lacking the elements of good bread. Unless a miller is thoroughly posted—and this he should strive to be—in every variety of wheat from every direction to which he has access, he should, in no event, change his milling wheat until he has satisfied himself, beyond a doubt, that the proposed grain will incur no risk, and rather prove more beneficial than the wheat he uses.

Millers are not much inclined to think about wheat just now. The all-absorbing topics are machinery and systems, and it is a matter of regret that more time and attention is not given to milling wheat. This subject merits continual study, and the future promises to make it obligatory upon the miller to be proficient in this important branch of his profession. Competition is bound to draw the line very close. Mills may occupy the same position, as far as machinery and skill are concerned, and thus side by side keep moving with even regularity; but the one puts more knowledge and discretion into the selection of its wheat than the other, and by and by leads in the race and takes the prize. Though the shades of difference in wheat are entirely invisible to the majority of observers, to the miller they should be clear and distinct, as they are likely to decide between success or failure in the sphere of milling.

To be guided by the external condition of wheat, is good enough as far as it goes, especially with familiar varieties; but with foreign grain, such a test can come far short of the mark, and end in great disappointment. To fully understand a sample of wheat is to know, not only the quantity, but also the quality, of flour it contains. The more the miller becomes acquainted with his flour, the more he will become interested in the wheat he grinds, and the better he will be able to judge the latter. A thorough knowledge of wheat presupposes a thorough knowledge of flour. A grain dealer, whose knowledge of flour can be very imperfect, may handle thousands of bushels of wheat, and do so intelligently, but he relies upon the miller's information as to what kind of flour the wheat yields and how much. The miller is expected to know, and why should he not? If he does not, it is his own fault. The culture of wheat is greatly under the

and generally gives uncommon satisfaction; however, every little while, a complaint is sent in that the last lot of flour was not as good as the former; that it dries out, does not rise, and is dark; that a neighboring miller's millstones flour is better. No change in the miller, nor in the mill, the whole affair looks like a mystery. Some one takes advantage of the situation, and denounces the system of milling. There is some truth in it. It is the system of milling, not as to the machinery, but as to the material used in the manufacture of the flour. A little inquiry reveals the fact that a bad batch of wheat caused the entire trouble. A miller cannot afford to grind bad wheat if he has an established trade on standard brands of flour. Competition is so great that the miller only has the chance to fool his customers a single time. The trade expects something nice in the flour line, and if you can furnish it, well and good, you get the orders, without many accompanying complimentary remarks; if you fail to produce the desired article, there is very little noise made, and the orders are simply not forthcoming. That is about the humor the flour trade is in at the present time, and hence the would be successful miller does

influence of the miller. Especially is this the case now since wheat is grown in such abundance. Millers are in a position to reject what is not suitable. This position on the part of the miller will be strengthened the more the production of wheat is increased. That the miller can use his influence to the best advantage under an intelligent comprehension of everything involved in the matter, can not fail to be understood. Besides were farmers are not compelled by competition to grow better wheat the instruction and assistance the miller is able to give will be sure to exert a powerful influence in the right direction. Furnish the farmer with the best seed wheat at reasonable prices, and make him understand the necessity of often changing his seed, and the result will be beneficial alike to the grain producer and the grain-user. In milling wheat, the miller will find a prolific field of inquiry and research, and no subject could be more timely at present, and would repay so ample for the time and study devoted to its consideration.

FRAUDS IN FLOUR.

There appeared recently in an Eastern paper, says the St. Louis *Globe-Democrat*, an article on food adulteration, in which it was stated that flour was frequently adulterated with talc or powdered soapstone, an exceedingly indigestible, insoluble mineral substance. The article went the rounds of the press and was taken up by the milling journals, which asserted that the adulteration referred to was not carried on, at least by any miller, and that it was extremely improbable that it existed except in the imagination of the person who penned the article. Millers all scouted the idea and spoke of it only as the revival of the old terra alba scare, which raged for an extended period some years since. That the article in question was not entirely without effect, however, is now apparent from a communication received by a well-known miller from Atlanta, Georgia. The epistle is written on one of the regular letter-heads of the "Atlanta Talc and Soapstone Mining and Manufacturing Company, miners and manufacturers of pure white talc and all grades of soapstone finely powdered." It read as follows:

ATLANTA, GA., Sept. 6, 1884.

MILLING CO., ST. LOUIS.

Gentlemen: We send you sample of pure ground talc, that we can sell f. o. b. car St. Louis at from 1 1/2c. to 2 1/2c. per pound, owing to the amount ordered; special rates on car-load lots. Let us hear from you.

Yours truly, C. K. MADDOX, Sec'y.

The gentleman receiving the communication was at a loss to understand its meaning at first, but when it dawned upon him, he was indignant at the idea of the proposition having been made to him.

"I am utterly at a loss to understand it," he said. "I have never before heard of the company. The meaning of the letter is clear to me now. There could be but one meaning to a letter of that kind addressed to a strictly flour milling concern. As to the choice made of me, I suppose that can be ascribed to the fact that my concern is well known throughout the Southern States, for I have never in the course of my existence had the pleasure of the acquaintance of any of these men or the company they represent. The business of adulteration they are trying to introduce—for I fully believe that it has yet to be introduced—is one of the dirtiest that any manufacturer or dealer in food of any kind could undertake. To adulterate goods so as to sell a man an inferior grade when he imagines he is obtaining the best is bad enough, but to deliberately mix such vile, indigestible stuff as soapstone with breadstuffs which are going out to innocent consumers to ruin their stomachs, and with no protection to them (for flour is seldom examined to detect the presence of any such impurities),

is something beyond the ordinary swindler. It takes a cold-blooded adept to do anything of that kind, and I do not believe we have any such scoundrels in the milling fraternity. To prove that the idea originated not with the miller, but with the dealer in soapstone, the price at which he offers his product, 1 1/2c. per pound f. o. b. car St. Louis, is dearer than good extra fancy flour in bulk. When you take into consideration the expense required in mixing, the absurdity of the thing becomes apparent. I imagine these fellows have seen that article on the subject published in some of the papers, and, thinking there would be a good opening for them, have sent out this letter as a feeler. My experience in the milling business dates back a great many years. My acquaintance among millers extends all over the United States and across the water, and I think I can safely say that nowhere except, perhaps, in some little backwoods town is there any adulteration of flour carried on to the detriment of the American or foreign stomach and the physical ruin of the present generation."

A number of prominent millers were seen and all of them denied any knowledge of the Atlanta Talc Company. They had received no communication from them and if they should receive any they would carefully deposit the same, they said, in the nearest waste basket. All expressed themselves in very plain terms regarding the person who would attempt to introduce any such system of adulteration.

Talc, the adulterant in question, is the softest of all minerals, being a species of soapstone. It is found of a light green color, but can also be obtained in a pure silvery white state, and when ground would be very difficult to distinguish from flour, especially if mixed with that article in about the ratio of 1 to 2. It is, however, very indigestible, and if used in food would exercise an exceedingly baneful influence on the digestive organs of those who might be unfortunate enough to partake of it.

The Mr. Maddox who signs the Atlanta communication is Senator Brown's private secretary, and actively engaged in Sunday-school work in Atlanta. He says if samples of talc were sent to a flouring mill company they were sent in mistake for an iron mill company, who could use talc for foundry facings and as a lubricant. He took the names from the St. Louis Directory, and where a company was given only as a "milling company" he could not tell what sort of mills they ran, iron or flouring, and he did not care either, as no harm could be done in sending out too many samples. It served to advertise the talc, and cost his firm only two cents. He was satisfied, however, that he sent none to any firm described in the Directory as a "flouring mill company," and asserted that from the carefulness with which the milling company in question advertised its honesty that they would not have been so indignant if the price of the material had been low enough for them to use it in their flour. He told the correspondent if he found out the name of the company not to use any of their flour for it would certainly have in it an adulterant not as good as his prime talc. If he had been trying to sell the material to flour men, other St. Louis men would have been sent samples. He never dreamed of such a thing as adulterating flour with talc, as it cost as much as flour itself.

The company to whom the communication of the Atlanta Talc and Soapstone Company was addressed was the Atlantic Milling Company, and the gentleman interviewed on their behalf at the time the letter was made public, was Mr. George Bain, President of that company. When shown the Maddox statement Mr. Bain was considerably amused. "Well," he said, "I give the fellow credit for considerable plaus-

ibility, but take his statement that he could not discern a flour concern designated merely as 'milling company' from a rolling-mill, and that if he sent samples to a single flouring-mill company he did not know it. Directly afterward he states that the list of names used by him was taken from a St. Louis Directory and represented only parties likely to need talc. Is it at all probable that to make up that list he would have waded all through the front part of the Directory, carefully examining each name, or is it more probable that he would have glanced at the last pages where different trades are classed under their appropriate heads alphabetically arranged? If he did the latter, the only place where he could have found 'Atlantic Milling Company' is under the head of flour mills. Now in regard to his claim that talc could not be sold cheap enough. This is an exceptional year, and a few years since it would have been so much cheaper than flour that a dishonest dealer could have used it to his profit. But, as I said before, I am firmly convinced that no miller in the United States is engaged in any such nefarious traffic. As for the virtuous gentleman's insinuations regarding myself, I think I am altogether too well-known both here and in the old country to suffer from the aspersions of an adulterator, or any one else, for that matter."

If any other proof is needed, however, it is to be found in a window on Olive street, between Fourth street and Broadway. For several days the passers-by on that thoroughfare have been edified by the display in the window of Oakes' candy store of a letter and sample similar to those received by Mr. Bain, the only difference being that this letter is addressed to "A. Oakes & Co., 409 Olive St." If Mr. Maddox possesses a St. Louis Directory, as he claims, the only head under which he could find the name of Oakes would be "Candy." He cannot, therefore, have addressed this letter and sample to Oakes & Company with any idea that they possessed a rolling-mill, or that they were in need of a lubricant. The only excuse he can fall back on in this case, then, is that "no harm is done by sending out too many samples." What benefit Mr. Maddox is to derive from having his talc advertised among candy men, unless he expects those candy men to purchase it for the purpose of adulterating their product, would appear to be beyond the reach of ordinary intelligence.

SMUT IN WHEAT.

"There is no doubt," said Chief Inspector Drake to a Chicago *Tribune* reporter, "that there has been a considerable increase of smut in wheat this year, and it is chiefly found in the grain arriving by the Northwestern and Chicago & St. Paul roads. The smut is found among really fine, fat wheat; in fact, a great deal of wheat classed No. 3 or rejected would have been graded No. 2 but for the smut. As long as the smut balls remain whole it is easy to get them blown out of the wheat, as they are lighter, but if the balls once break they scatter a sooty dust around which adheres chiefly to the germ end of the wheat berry, giving a dirty, fuzzy appearance, which any amount of brushing and cleaning cannot remove. The diseased kernel of the wheat is said to be the origin of the smut ball, but be that as it may, it grows in the head of wheat the same as the regular berry, maturing to smut instead of wheat.

"The smut gives a peculiar taste to wheat. If you chew a few grains of wheat in which there is smut you will feel a distinct smarting sensation in the mouth and throat, but it is the smell more than the taste which is characteristic. It is just like the smell of codfish."

"Can wheat with such smut be turned to any practical account?"

"Yes, it will be bought by millers and, after a good deal of scouring in the mills, turned into low grades of flour."

Ed. Norton, of the Madison Bridge Mills, indorsed Inspector Drake's statements. "There is," said he, "a good deal of smut in the wheat from South Minnesota and Iowa this year and a little in that from Nebraska. Some samples that I have seen are unfit for any commercial purpose. The smut affects flour the same as if you were to pour so much lampblack into it. The more you attempt to rub and clean it the worse you make it. I consider that it originates from the degenerated wheat berry, because I have seen within the same husk both smut and part of the white kernel."

Mr. Norton hereupon produced several samples of good wheat from which he picked out several balls of what he termed smut. They resembled wheat in every particular, even to the crease. On being brushed most of the balls were found to contain a soft, brownish-black dust, while a few contained not only the so-called smut but also distinct remains of the white kernel. The samples of smut shown at Inspector Drake's office were much more nearly round than these, and showed, as far as could be observed, no distinct crease, and gave out when bruised a uniform impalpable black powder. This would indicate that perhaps some of the samples were really the genuine smut, which is believed to be a parasitic growth in the ear of wheat, and the others were perhaps simply degenerated wheat berries.

Mr. Norton described the smell of smut as resembling that of state confish. It was not he said, the smell or the taste that was any drawback to the flour, but the impossibility of bringing the flour to a good color.

THE POLITICAL CAULDRON

STARTLING DEVELOPMENTS.

NEITHER PARTY WILL WIN.

THE AMERICAN PEOPLE AGITATED
AND OUR GLORIOUS REPUBLIC

KNOCKED GALLY WEST

(Special Telegraphic Correspondence of THE
MILLING WORLD.)

Can we Support a Man who Has Never
Married His Own Wife? Let the In-
telligent Voter Reflect.

NEW YORK CITY, 47 Cherry Street,
Midnight, Sept. 17.

A startlingly terrible tale has just been given to the reporters of the metropolitan press, by a leading and very influential democrat of this district. He had been over to Tim Moran's, on Elizabeth street, known as Blaine and Logan Headquarters, to make inquiries touching Bar Harbor. From the person in charge he, without making known the real object of his inquiries, very skillfully extracted the information that he could obtain beer over the Bar for five cents or whiskey for ten cents. He very frankly, and with true democratic ingenuousness, admits that he was startled at the disparity in the cost of these two essentials of vigorous manhood, and suspected it was a deep-laid republican scheme for raising campaign money. He withdrew from immediate proximity to the bar to revolve the possibility of working the same racket on Cherry street. "Byes," he said, in relating this, "it's a grate scheme so it is, but howd an till oi relate fwhat happened nixt. Oi was lanin' oop aginst the wall when, be jaspers, oi hurd somewan an the other soide av it say, 'Misther Blaine towld me it with his own mouth.' 'But it'll kill him dead,' said anither vice. 'Repate exactly the wur-ruds he implied said a man with a dape vice. 'Jim and oi,' said the fursht wan, 'wur a takin' a wake toddy, an he sez, sez he, 'Staven, oi don't know as iver oi towld ye, but oi niver married me woife.' 'Suffrin

Moses, sez oi, 'don't tell me that.' 'But it's throe Stave,' sez he. 'How's that?' sez oi, 'sure she has yer name.' 'Throe for ye' sez he, 'an oi'll say before all the wuruld she is me woife, but jist the same oi didn't marry her, an fwhat's more Stave oi cudn't.' 'Howly St. Pether,' sez oi, 'fwhat are ye givin' me.' 'The shtrate tip,' sez he, 'ye see Mrs. Blaine that is, an' me, made oop our moinds to get married. Sez oi to her, Oi'll marry ye. Sez she, Ye can't, Sez oi, Oi will. Sez she, But ye can't fur yer nather a praste, a minisher or a justice av the pace. An Stave she was roight, an' oi had to get a minisher to marry her to me,' an' that's the sthory byes oi hurd fwhile in the Blaine an Logan headquarters."

(Special to THE MILLING WORLD.)

Can you Conscientiously Vote for this Woman?

WASHINGTON, D. C., Sept. 17.

The campaign is daily, I might, with entire truth, say hourly, growing more bitter. As I write this dispatch a well-known party man has ordered gin and bitters. He appears oblivious of my presence. As a politician he should know this is not the proper course to pursue to gain the influence of the press. The nomination of Mrs. Belva A. Lockwood for the Presidency has apparently been a surprise to men of every political complexion. It is regarded as another aggressive step upon the part of suffering womanhood, and latterly these aggressive steps are becoming more frequent and longer, and are, by our wisest statesmen, viewed with alarm. The acceptance of the nomination, and the preparations for a vigorous personal canvass by Mrs. Lockwood, who will be assisted, upon this occasion only, by an army of female book agents, who are well qualified, by experience of man's inhumanity to struggling femininity, to speak of woman's wrongs, has stirred some of the "old timers" to investigate her past career, and the result is "another idol broken." It can be proved, (and undoubtedly will be as the canvass progresses) that Mrs. Lockwood, in her professional career as a lawyer, (ess?) *has taken decisions from judges before whom cases in which she acted as counsel were tried.* Understand these decisions were taken from judges on the bench! Can we elevate such a woman to the highest position in the gift of the American people?

(Special to THE MILLING WORLD.)

Is it an Attempt to Gain the White House by Deception?

LAWRENCE, KAN., Sept. 17.

Your readers may recall the fact that St. John made a speech here a few nights ago, I was present at that meeting and although not fully coinciding with the political creed of the party whose nominee St. John is, I was more or less (probably less) impressed with what he said. St. John stands pretty high in this state (that night, I remember, the rostrum was some eight feet above the ground) and while many of the citizens oppose him politically, I have observed that all, except a few soreheads, regard him with a peculiar reverence. I have for a long while been puzzled to learn why this is, as the vulgar herd are not apt to look upon their leaders with much respect. Knowledge came to me in this wise: I was listening that evening to his speech when a native touched me on the shoulder and said, "Putty convincin' argyment, stranger?" I admitted that such construction might be put upon it. "Reg'lar voice o' one cryin' in the wilderness, hey?"

I expressed my ignorance of his meaning. "Considerable locus' an' wile honey business," he continued.

I again expressed my inability to comprehend the drift of his remarks.

"Know him?" he queried, jerking his thumb in the direction of the speaker.

"Certainly," I replied, "its Mr. St. John, the Prohibition candidate for president."

"Is that all ye know about him," he continued.

"About all," I answered.

"Ever read yer Bible?" he asked.

"Of course," said I.

"Read about John the Baptist, hain't ye?"

"To be sure I have," I answered.

"That's him," he said in a peculiarly solemn manner, as if he expected the information to paralyze me, and then continued, "We're runnin' a reg'lar Bible ticket this year, St. John as the head an' Daniel of the lion's den as the tail, an' it'll carry Kansas from 'way back."

The secret was out. The worthy people of this state have been led to believe that St. John and Daniel are asking their support and suffrage in order that due preparation may be made for the coming of the millennium. Opposed as THE MILLING WORLD is known to be, to all political trickery, I have made it a duty to investigate this matter and as a result of my researches am able to state to your readers that St. John instead of being the Baptist is a full-fledged Methodist, and that Daniel never but once saw a lion and that was during a street parade of Barnum's circus.

(Special to THE MILLING WORLD.)

The Real Cause of our Late Civil War.

BOSTON, MASS., Sept. 17.

Your correspondent was informed to-night that the war of the Rebellion was incited, instigated and pushed to a reality by Ben Butler. The silver spoon business and Dutch Gap canal racket were simply gone into to divert attention from the prime motive for encouraging internecine strife. As is now generally known Ben owns the only bunting mill in the country, and bunting is about the only stuff suitable for flag making. As most of your younger readers will remember the flag business was pretty dull in '58 and '59 and if Ben owned the mill at that time he stood to lose a hatful of money unless flag making was stimulated. Workingman Butler, so the story goes, was equal to the occasion. It didn't take very long to arrange matters so that Fort Sumter should be fired upon and after that everything was easily carried on. The call for 75,000 men meant 750 companies of 100 men each, and, as each company was presented with a flag by the city or village where it was enlisted, this meant 750 flags; add a new flag for Fort Sumter, to be in readiness so soon as said Fort should be retaken by the U. S. government, and we have 751 flags. Thus was the bunting business stimulated and its drooping fortunes revived. I am in possession of information that this will be used with telling effect against Anti-Monopoly Ben this fall.

(Special to THE MILLING WORLD.)

How He Killed His Chance of Election.

ALBANY, N. Y., Sept. 17.

Why is it that men who aspire to political prominence in this country are continually "putting their foot in it" whenever they open their mouths? In conversation with a republican to-night, (there are two republicans here, so I am not giving my informant away,) I learned of a little assertion of Gov. Cleveland's which will be used with damaging results this fall. When he was sheriff of Erie county a political friend asked him if he expected re-election. Cleveland happened to have in his hand a piece of rope by which a criminal had suffered death. Giving the rope a flirt he flippantly remarked, "I shall hang on as long as possible." Could any little remark have been more unfortunate? His opponents will use it for all it is worth, asserting that he meant to relax no endeavor to retain the privilege of hanging United States citizens.



HOW DOES THIS SUIT?

"Cooch's Bridge, Del., Aug. 25, '84.
"Messrs. Kreider, Campbell & Co.,
"Philadelphia, Pa.

"Gentlemen: Your machine was sent here against an —, on condition that we should keep the best, and we tried each machine, and are frank to say that if your machine cost us \$500 and the other was offered us as a present we should take yours, as we cannot find a fault with it. The above machine has a capacity of 50 bushels per hour."

We think best not to publish name, but it will be given upon application. Address, KREIDER, CAMPBELL & CO. Philadelphia, Pa.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,
Columbus, Ohio.

Office and Factory, 5th Street, north of Naughton.

BUCKWHEAT FLOUR

Always commands a better price, and gives better satisfaction to the consumer when made by the aid of Crausons' Silver Creek Roller Buckwheat Shucker. This is a fact which we can demonstrate to any miller who will write us.

G. S. CRANSON & SON,
Silver Creek, N. Y.

MILL COGS AND CONVEYOR FLIGHTS.

Cogs to order on shortest possible notice, large stock of superior flights on hand.
N. P. BOWSHER,
South Bend, Ind.

FOR SALE!!

Nine full set of the celebrated Stevens rolls made by the John T. Noye Mfg. Co., Buffalo, N. Y. Six of them were sent to the Commercial Mills, Detroit, Mich., in December last, but were taken from there without having been put in operation, or having been touched by fire, and our rolls substituted. They were made from the present patterns of the John T. Noye Mfg. Co., and have their late so-called Holt belt drive (or words to that effect). We will furnish smooth rolls with these machines, or any kind of corrugations, to parties who may object to the Stevens corrugations. Three set we have recently taken from the celebrated Elkhorn Mills, of H. D. Rush & Co., Leavenworth, Kan., where our rolls are being placed. All of these rolls were made at Ansonia, Conn., and are of the same make as those used by the John T. Noye Mfg. Co. We offer these rolls at half list price. Please write for particulars. Respectfully,
NORDYKE & MARMON CO.,
Indianapolis, Ind.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 1/2 cents for each additional word. Cash with order. Three consecutive insertions will be given for the price of two.

SITUATION WANTED.

By a miller who understands the "Roller System." Good references. Address, LOCK BOX 84, Niagara Falls, N. Y.

SITUATION WANTED.

By an experienced miller. Have taken charge of grist and flour mills. A first-class stoneman. Good references. Address WM. REED, North Bucksport, Hancock county, Me.

WANTED SITUATION.

As first or second miller. Have had eight years experience in both merchant and custom mills. Understand both roll and stone. Can give the best of reference as to morals and ability. Am married. Address B. F. CONKLIN, Dundee, N. Y.

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 1/2 cents per word for one insertion, or 4 cents per word for four insertions. No order taken for less than 60 cents for one insertion, or \$1 for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

FLOUR MILL FOR SALE CHEAP.

On easy terms of payment; favorably located, within 60 miles of this city, good opening. Address, P. O. Box 2418, St. Paul, Minn. 1883

FOR SALE.

A good water power flour and saw mill, doing a good business. Situated in Western Ohio. Will sell at half value. Address, LOCK BOX 17, Troy, Ohio. 1922

SECOND-HAND WATER WHEELS.

Several Lefel water wheels, thoroughly repaired, and in good order. Write for sizes, condition, prices, etc., to JAMES LEFFEL & CO., Springfield, Ohio. 2087

FOR SALE OR RENT.

A three-run tide-water mill, all in good order; good machinery. A bargain for a man with a small capital. Water all the year. C. E. STUDWELL, Bay Port, Conn. 1881

WANTED TO RENT.

A custom mill. Must be in good order, with trade established. New York or Pennsylvania preferred. Address, with full description, I. W. POST, Phelps, Ontario county, N. Y. 1881

WANTED.

A practical mill man for a partner, or will sell a first-class merchant mill, with cotton gin attached. Finest location in America. Address, JOHN ESTES, Abilene, Taylor county, Texas. 1881

FOR SALE OR RENT.

Good water power custom mill in good wheat section, doing good business. Well located for custom and merchant work, with house, barn, and shed. J. D. REEVES, Newark, Wayne county, N. Y. 1993

FOR SALE.

The undivided one-half or whole of a three-run Flour Custom Mill. Never-failing water power can be had on reasonable terms. Situated in a fine wheat country. Reason for selling, poor health. Address, L. G. BISHOP & CO., Argentine, Genesee county, Mich. 2124

PARTNER WANTED.

Or would sell. Capital needed to develop business of first-rate fifty barrel steam roller mill, well located in western New York. Large custom and local trade. An exceptional chance for the right man. Apply, HUME & SANFORD, Real Estate Agents, 18 West Swan Street, Buffalo, N. Y. 2028

A BARGAIN.

One 16-inch under-runner, full iron frame, middlings mill, made by C. C. Phillips, Philadelphia. It is brand new, has never been used, and will be sold at a big bargain as I have now no use for it. Address C. 91, care THE MILLING WORLD, Buffalo, N. Y. 17

YOU CAN BUY THESE CHEAP.

Three McCully Corn Cob Crushers.
The above articles are brand new, in perfect condition, just as they left the factories, and will be sold very cheap for cash. Address S. 30, care THE MILLING WORLD, Buffalo, N. Y. 17

FOR SALE CHEAP.

One 6-horse power engine and 10-horse power boiler, all complete, price, \$350; one 8-horse power engine and 10-horse power boiler, price, \$375; one 10-horse power Portable complete, price, \$350; one 10-horse power Russell Traction, price, \$500; one 4-horse power vertical engine, price, \$120. Call or address for particulars EZRA F. LANDIS, Lancaster, Pa. 2022

MILL FOR SALE.

Building 48x150, four stories; four run burrs; one set Allis rolls; latest improved cleaning machinery; double engine, 40-horse power each; capacity 120 barrels. Located on railroad switch. Good shipping facilities. Built in 1879, and in first-class order, doing a good custom and local trade. Will sell at a bargain. For particulars address, MERCHANT MILLS, Brownstown, Fayette county, Ill. 1922

FOR SALE.

A four-run New Process water power flouring mill, and 160 acres of very choice land; 40 acres of young timber. Situated in Colfax county, Neb. Mill in good repair. A never-failing water power. All facilities for making first class flour. A good chance to do a first-class paying business. Owners desire to go into other business. This property will be sold at half its cost. Address, J. A. GRIMISON, Schuyler, Colfax county, Neb. 1717

A GENUINE BARGAIN.

I offer for sale my 3-run, water-power mill, together with between eight and ten acres of land, four houses and a saw mill, (the latter not in operation.) The property is in a village of 1,800 inhabitants, in a fine and rich agricultural section. Everything is in good repair except the saw mill. Flour mill is located within 30 rods of railroad station, and my retail trade ranges between 60 and 80 car-loads per year. I offer the entire property for \$10,000. Excellent reasons for desiring to sell. Address, if you mean business, "MILLER," care THE MILLING WORLD, Buffalo, N. Y. 1821



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THE AMERICAN INDUSTRY PRESS
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SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; can be remitted by Postal order, registered letter, or New York Exchange. If currency is enclosed in unregistered letter, it must be at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Card of Rates sent promptly on application. Orders for new advertisements should reach this office on Tuesday morning, to insure insertion in the week's issue. Changes for current advertisements should be sent so as to reach this office Saturdays.

EDITOR'S ANNOUNCEMENT.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with any manufacturing or mill furnishing business. Its editorial opinions cannot and will not be influenced by a bestowal or refusal of patronage. It has nothing for sale, but its space to advertisers and itself to subscribers.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

MILLERS' ASSOCIATIONS.

NATIONAL.....S. H. Seamans, Sec'y., Milwaukee, Wis.
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OUR MILLERS.

IT has been said that millers, in one respect at least, closely approach the agricultural portion of the community—existing conditions are never wholly satisfactory to them. In other words one can never find them without something to complain of or shake their heads about. With the farmer it is either too hot or too cold; too wet or too dry; he has bugs, or birds, or rust or blight, or something else, to contend with, and invariably anticipates being worsted in the struggle. With the miller various causes combine to make him look upon life as scarcely worth the living, yet we find both these classes of citizens living well, dressing well, and as a rule accumulating property. Just at this time very little is heard from the millers unless they are interrogated, and then the tale is often pathetic. Flour is, so you are told, a drug; there is no sale for it at prices that afford even a microscopical margin. Why do they continue running? Oh, they must, you know, to protect a trade they have been years in building up. Have they realized any profits from this trade? No, not yet, but if the present demoralization of business had not set in they would have done so without doubt this year. Oh, yes it is very costly this building up a trade in, and demand for, a certain brand of flour. Any money in it? Well there might be if competition were not so strong. As it is there is no money in it. You see, in ordinary seasons, speculation in wheat so affects values that the profits you may have made on a week's run are more than absorbed in a single day, nay may be in even a single turn of the market. Then, too, your agent at the selling point usually manages to run up a pretty big bill in addition to his usual commission, and this in connection with bad debts, discriminations against you in freight rates, the constant drain upon your

resources for additional new machinery, etc., etc., renders the business one of exceptional uncertainty. Why don't I get out of the business? Bless your soul and so I would but no one wants to buy. Why don't I shut down? I can't afford to do that as some one would get my trade. To be sure I am holding this trade now at a loss, but something may turn up to change matters, and then it may be possible for me to recoup myself. Yes I've been increasing the capacity of my mill; found I could and somewhat reduce the cost of running expenses per barrel of output, and as we have to cut corners very close now you see it was the best thing I could do. Yes I've been building a new house, wife's idea you see: she thought, as the children were growing up, we ought to have a better home, and—well you have to humor women folks you know. Paid for? Oh, yes. I don't believe in going in debt.

Now this picture is not overdrawn. To be sure every miller would not come under this particular category, but taken as a whole our millers have been, and are prosperous. They manufacture a staple article for which there is a steady demand, and the markets seldom get so overstocked as to entail grievous loss upon them.

It is quite true that margins of profit vary, and greatly, with location of mill and trade catered to, but profit is the rule rather than the exception in the conduct of this business, no matter what those engaged in it may say. When we look back over the past six or seven years, and note the radical changes that have been adopted in mechanisms for and processes of flour manufacture; when we note the great number of mills whose equipment has been entirely torn out and replaced, not once but in many cases twice and thrice; when we look over the field and observe how few, compared with the whole number, of our millers have been the victims of financial reverses in spite of what may be truthfully termed a continual drain upon their resources, we are fain to admit that flour manufacture is one of the safest enterprises of all our productive industries.

Is the business overdone? That depends on how one looks at it. It has been computed that we have milling capacity sufficient to convert all the wheat produced in the country into flour in six months. How nearly correct this computation is it would be difficult to say, but if it be even approximately correct then our milling capacity is far in excess of requirements, provided the quality of the flour product would be such as to make it profitably marketable. No one, we imagine, would be wild enough to assert that this is the case. Another thing, comparatively few of our millers are idle; production is being continued, and not without, at least a certain measure of profit. Our best equipped (by this we do not mean most elaborately equipped) mills have very sensible advantages over those which, from mistaken notions of economy upon the part of their owners, have been suffered to run on without suitable improvements in their facilities for flouring, and we imagine these advantages will become more and more apparent as time goes on. Our admittedly large wheat crop, with very materially curtailed demand upon us from foreign countries will rule low in price, and affect flour values. We look therefore for a growing and increasing necessity for economy in the expense of wheat conversion into flour, and right here will those millers who have the proper equipment of improved machinery be in advance of those who have not. We believe the time is approaching and that rapidly when the advantages of possessing modern improved machinery will be demonstrated as they never have been in this country. It will be necessary not only to turn out a high quality of product but to do it economically, and these two requirements

can only be met by the possession, and proper operation of improved mechanism. We look for activity among our millers during the coming year. As the *Express* of this city very tersely puts it. "No country can be poor—no country can even long be stagnant and depressed in its business affairs—whose fields yield a wealth that makes the mines of Golconda and Potosi seem poor in comparison." Wheat will be cheap; flour will be cheap; bread will be cheap, but this will prove a blessing in that free consumption of it will be permitted, nay, assured.

PHILADELPHIA'S ELECTRICAL EXHIBITION.

At the time we go to press the Electrical Exhibition at Philadelphia is undoubtedly in good running order, but up to last Friday evening we can state from personal experience, the display was in many parts in an imperfect condition. It seems to be inherent to exhibitions to be behind. As far as the display of electrical apparatuses and appliances is concerned, it is beyond doubt one of the most delightful exhibitions of its kind ever held in any part of the world. Even without any technical knowledge whatever, a visit to the exhibition building in the evening, is worth a trip to Philadelphia. Night is, in the truest sense of the word, transformed into day, not with the glaring and flickering which we usually associate with the electric lights, but with a soft and agreeable, though brilliant, light, pleasing to the eye under every condition.

A cursory inspection shows that the exhibition is primarily divided into various departments, the most striking of which is that for the production of electricity. Here all the leading companies have their dynamo machines represented in various types and sizes. Electric conductors in various forms and shapes have many exhibits, from large ocean cables to delicate copper wires. An electrical engineer can no doubt go into raptures over the various forms of apparatus for electrical measurements, but to the every day visitor these instruments are not much more than mere curiosities and although they represent some of the most delicate and intricate inventions, they fail to attract more than passing attention. The practical side of electricity displayed is, however, better understood; the telegraph, telephones, alarms, clocks, registers, signals, etc., are more or less comprehensible, and the average visitor is glad to see things with which he is, at least in part, familiar.

By far the most appreciated part of the exhibition, and which is really the great magnet that draws the majority to the exhibition, is the display of lights. All forms and systems are represented and they show very strikingly that with the proper engines and careful management there really seems to be no necessity for the constant change in the intensity of the lights which we only too often notice in some of our street lighting apparatuses and where an observer sometimes can find between twenty and thirty variations in one minute. It is to be hoped that the electrical conference which holds meetings in connection with the exhibition will find sufficient time among their intricate and difficult technicalities and measurements to tell the outside world which of the many systems of lighting gives the best light for the smallest sum of money.

Besides the lights the most popular exhibit is the hatching of chickens by electricity, that is, not by electricity itself, but by means of lamps whose radiation into the incubator is regulated by electrical apparatuses. The spectacle of a chicken breaking through its egg attracts more people than any of the electrical apparatuses present.

One of the novelties at the exhibition which is worthy of a notice is the telethermometer, an instrument designed to increase the safety of ocean travel by register-

ing the temperature of the sea and thus giving warning to vessels if they should approach an iceberg or ice floes in a fog. The same instrument placed into the hold of a vessel will record any heating of the cargo and register a corresponding indication by means of a wire to any part of the ship where the record is to be kept. It can also be used as a fire alarm, and really there seems to be an endless number of applications for this instrument already, which future developments will undoubtedly increase.

JUST what this country would do if it were denied the privilege of discussing adulterations of foods and foodstuffs it would be very difficult to say. The latest is the story told by the *St. Louis Globe Democrat*, which we re-produce on another page, touching the attempt to inveigle some big milling firm in that city to use pulverized talc as an adulterant for their flour. We are sorry that the enterprising producers of this undoubtedly valuable adulterant entered upon the business of its manufacture when they did. Wheat is now too low to make it any object for the miller to make use of anything except the genuine article, and we fear the "Atlanta Talc and Soapstone Mining and Manufacturing Co.," will "go broke" on this branch of their business before millers will find it advantageous to employ their goods. It has been for several years "dinged into" the ears of our Southern brethren that they needed Northern energy, brains and capital to develop their wonderful resources. Evidently some Yankee has at last "struck" Atlanta.

A SERIES of papers of general interest which were read at the recent meeting of the American Association for the Advancement of Science, at Philadelphia, and reported for *THE MILLING WORLD*, will be printed in our next issue. Scientific discussions are not always as technical as we are led to believe, and many of the papers contain observations and deductions which are of an exceedingly popular nature, and, being prepared by experts in the different departments of learning, and not by salaried officials, they represent the sum of researches which are unbiased by anything. Moreover, as all the papers presented at these meetings have to stand the cross-fire of a thorough discussion, their merits are fairly established after passing through this ordeal.

FOR a long time past little or nothing has been said touching the possibilities of profitably employing centrifugal reels for all the operations of bolting. We are assured, upon what we deem reliable authority, that it is quite possible to supplant the old hexagonal reel, without, in even a slight degree, lowering the quality of the output. From an economical standpoint it would seem to be to the advantage of millers to investigate this matter, but there is no apparent desire to do so; at least it is not strongly manifest.

BUFFALO elevator owners, so it is said, have been interviewed during the past week by Mr. Oliver Dalrymple with the idea of effecting suitable arrangements for the storage of a portion of his immense wheat crop, and that his efforts in this direction have been crowned with success. He intimates his intention of shipping to Duluth, and thence by lake to this city. We don't know just how shrewd Mr. Dalrymple is, but we trust his eye teeth have been squarely and emphatically cut.

THE JOLLY MILLER



BEFORE HARVEST. SINCE HARVEST.

ESTABLISHED 1856.

EUREKA GRAIN CLEANING MACHINERY | GENUINE DUFOUR BOLTING CLOTH

OVER 18,000 MACHINES IN USE.

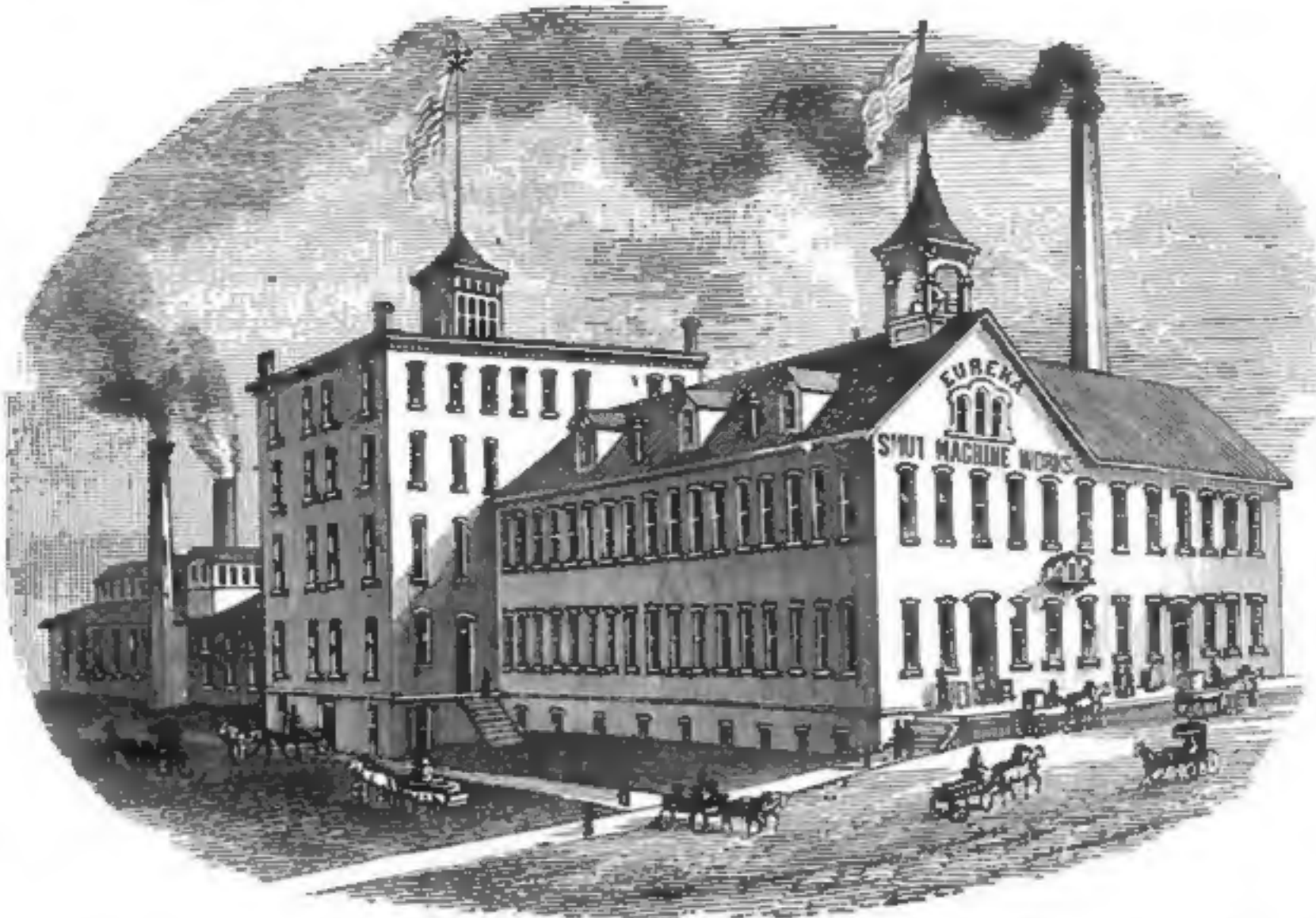
OUR LINE COMPRISES

The Eureka Separator,
The Eureka Smutter and Separator,
Eureka Brush Finisher,
The Eureka Magnetic Automatic Separator,
Silver Creek Flour Packer.

Our establishment is the oldest, the largest and most perfectly equipped of its class in the world, and our machinery is known and used in every country where wheat is made into flour.

HOWES & EWELL,
SILVER CREEK, N. Y.

European Warehouse and Office: 16 Mark Lane, London, E. C. Gen. Agency for Australian Colonies and New Zealand. Thos. Tyson, Melbourne, Victoria.



We handle this justly celebrated cloth in large quantities, and can fill all orders upon receipt. For such as may prefer a cheaper grade, we offer our

ANCHOR BRAND BOLTING CLOTH.

Guaranteeing it to be equal in every particular to any other cloth on the market, except the Dufour. We have handled it for years, have sold thousands of yards of it, and know it will fully sustain our representations.

Send For Samples of Cloth, Our Style of Making Up, and Prices.

HOWES & EWELL,
SILVER CREEK, N. Y.

YOU WANT ODELL'S ROLLER MILLS

no piece of machinery in your mill that is so complicated as to render constant watchfulness necessary to prevent injury to it. Complication usually signifies liability to derangement, and no successful miller can afford to employ any piece of machinery which may, at an unexpected moment, fail in its operation or cause any change in the character of the work it may be engaged upon. The celebrated Odell roller mills are admitted to be the simplest of the simple, and to be most thoroughly reliable in the character of the work turned out where they are employed. They have every useful and necessary device for accurate, quick, and easy adjustment, while no unnecessary traps encumber them to confuse and bother the miller. Once adjusted they remain so until purposely changed. They are the invention of A THOROUGHLY PRACTICAL AND SUCCESSFUL MILLER, who is also a thoroughly practical and SUCCESSFUL MILLWRIGHT; a Millwright of SUCH WIDELY ACKNOWLEDGED ABILITY THAT HE HAS BEEN CALLED UPON IN PAST YEARS TO PLAN AND SUPERINTEND THE ERECTION AND ARRANGEMENT OF SOME OF THE LARGEST MILLING ESTABLISHMENTS IN THIS COUNTRY. And he is to-day superintending the erection and arrangement of the largest mill that has been built in this country during the past two years. We need not adduce further evidence of the ESTIMATION in which his services and ability are held.

The contract for this mill has been AWARDED TO US, and fifty stands of double ODELL ROLLER MILLS will be used therein, making

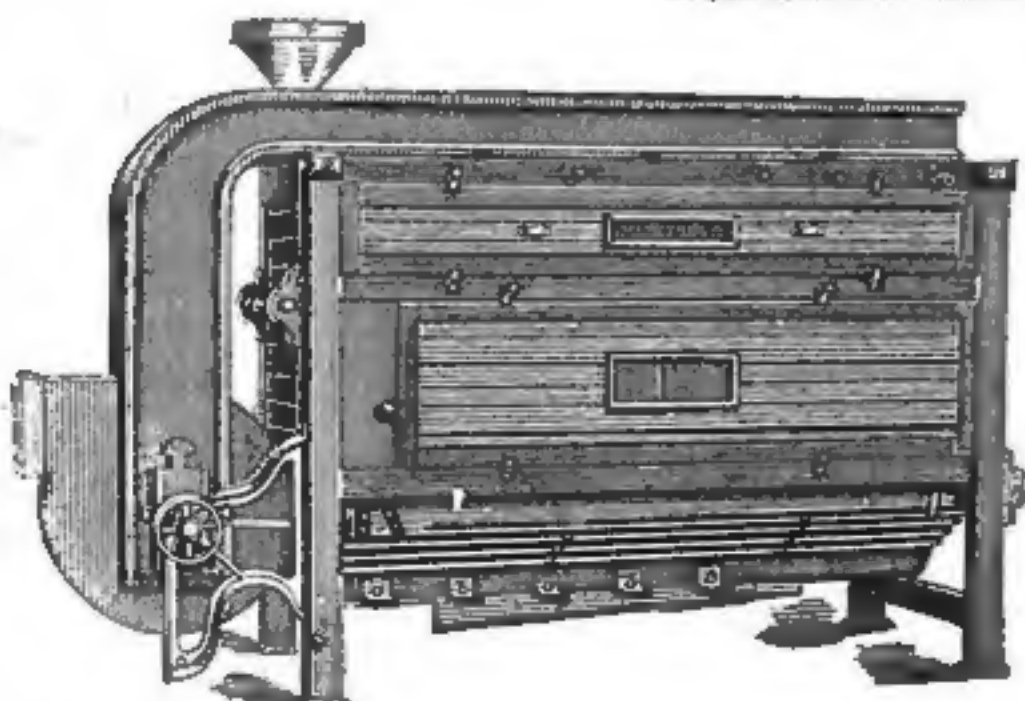
ONE HUNDRED PAIRS OF ODELL ROLLS IN THIS MILL.

As we build the Odell Rolls in a variety of forms to meet all varying requirements, we think you will find it advantageous to come and see or correspond with us before placing your orders elsewhere. We promise to do our best for you at any rate.

STILWELL & BIERCE MANUFG. CO., DAYTON, OHIO.

WOLF & HAMAKER'S LATEST IMPROVED MIDDLINGS PURIFIER AND DUST CATCHER

The Only Machine with Two Sieves, for Fine and Coarse Middlings. The Only Machine with Balance Motion, Consequently no Jarring or Shaking.



ADAPTED to all styles of milling, high or low grinding, as fine or coarse middlings can be treated separately on one machine. Economy in space, as the machine is a double one. A perfect cloth-cleaning device. No brushing or wearing of cloth. Licensed Under All Conflicting Patents. We are the Agents for the E. P. Allis Roller Mills, and Mill Builders and Contractors. We are at all times prepared to furnish plans and estimates, and to contract for the erection of first-class mills of any desired capacity from 50 to 500 barrels. Parties contemplating Roller Mills or remodeling old mills will find it to their interest to write for Prices and Terms. Wolf & Hamaker's Latest Improved Bolting Chest. Also Mill Furnishings of Every Description.

OUR DUST CATCHER IS GIVING THE BEST OF SATISFACTION, AND OUR PRICES ARE SUCH THAT EVERY MILLER SHOULD HAVE THEM.

WOLF & HAMAKER, ALLENTOWN, PA.

ON VIEW AT PERMANENT EXHIBITION OF MILL MACHINERY,
36 BROADWAY, NEW YORK.



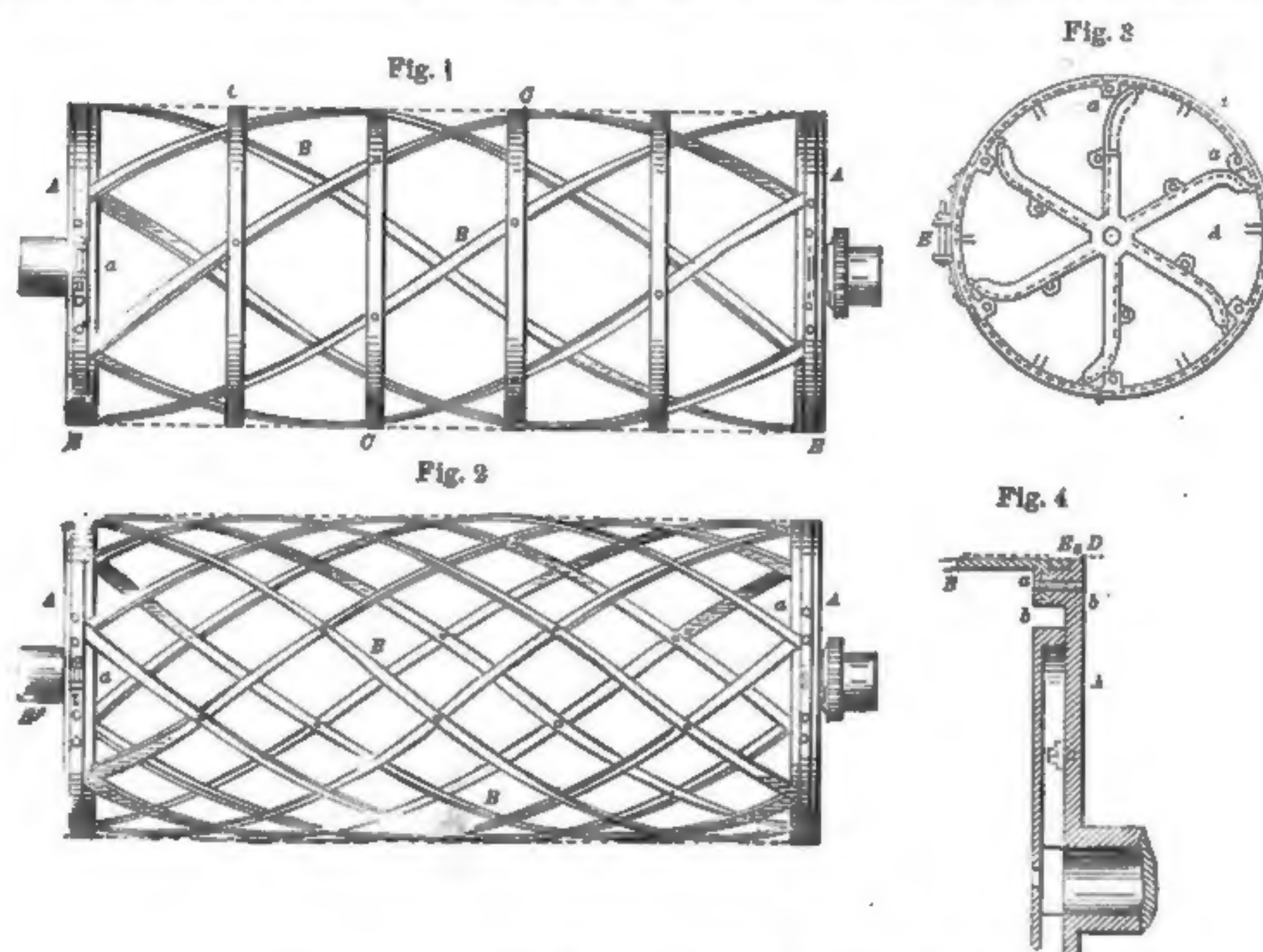


ROLLER-MILL.

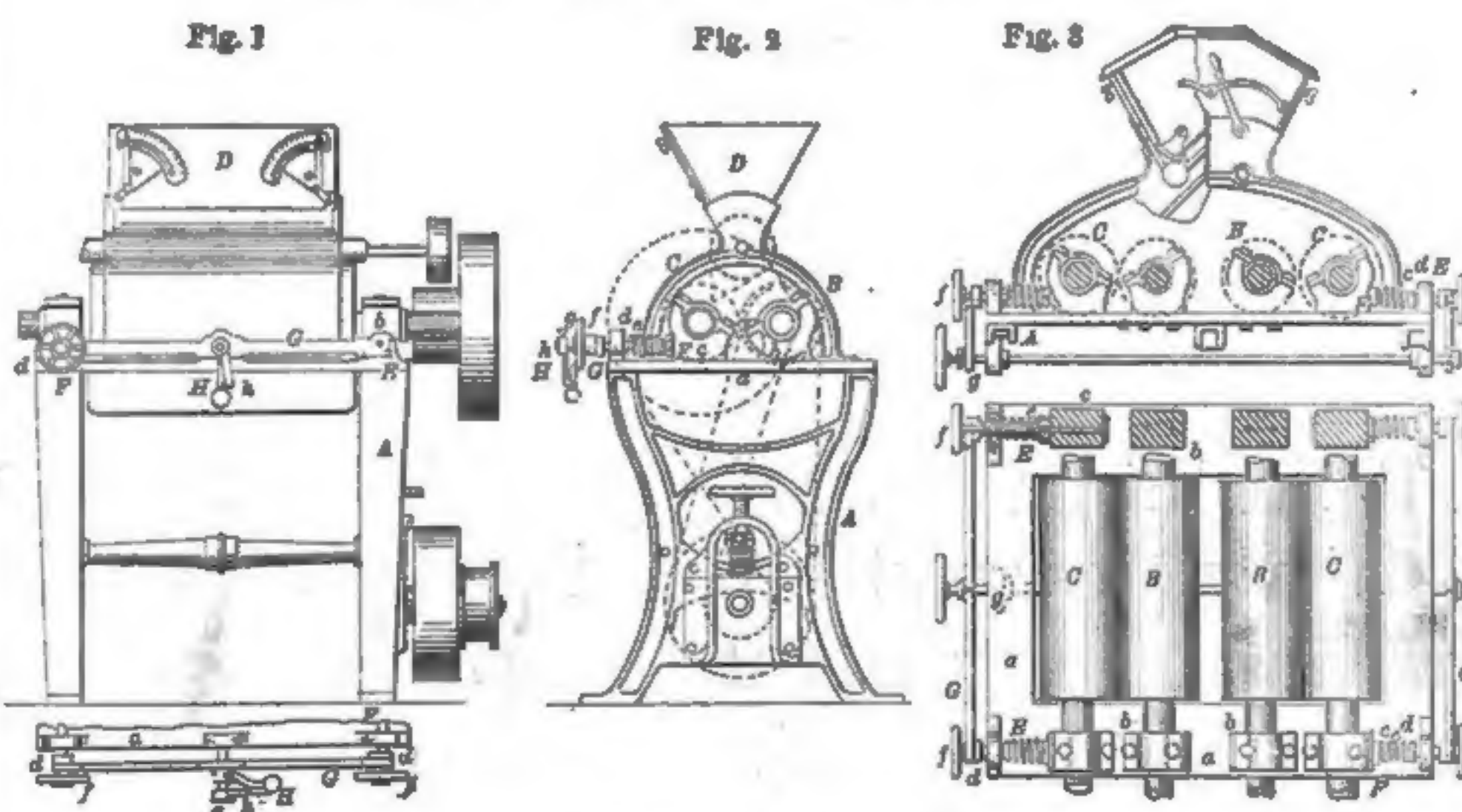
Letters Patent No. 304,468, dated September 2, 1884, to John Stevens, of Neenah, Wisconsin. Roller mills for the reduction of cereals, as usually constructed, have one roll of a pair mounted in movable bearings, either swinging upon an adjacent pivot or sliding in ways upon the bed-plate. Springs are arranged to press these bearings in toward the stationary bearings of the other roll and permit them to temporarily yield therefrom, and adjusting devices are provided, as a rule, whereby the stress of these springs may be increased or diminished and the limit determined to which the yielding roll may approach the other or recede therefrom. Instrumentalities are also employed, in order at any time to quickly and effectively throw the rolls apart or bring them together without disturbing the set of these adjusting devices. When the bearings swing upon pivots, they are thrown out and in bodily with their springs and adjusting mechanism. When, on the other hand, they slide upon the bed-plate, their compulsion out is against the stress of the springs, which serve to return them as soon as freed. This invention relates in part to generic improvements upon instrumentalities of this nature—that is, instrumentalities designed to throw the movable bearings temporarily out from the stationary bearings without regard to their regular adjusting devices—and in part to specific instrumentalities designed to effect this end, and it consists in combining with long adjusting-screws, and with coacting springs, levers arranged to act upon the heads or hubs of said screws and extending to a central meeting point, and a common controlling device for moving the ends of said levers to retract or let in the yielding roll simultaneously at each end; in combining with said long adjusting-screws and their coacting springs levers arranged to act upon the heads or hubs of the screws and extending therefrom to a central meeting point, a common controlling device for moving said levers to throw the yielding roll out or let it in, and an adjustable stop barring the action of said controlling device whenever in its inward movement the yielding roll reaches its predetermined proximity to the other; in combining with said long adjusting-screws and coacting springs levers arranged to act upon the heads or hubs of said screws and extending therefrom to a central meeting point, a screw-rod at said point over which the ends of the levers take, and a hand-nut working upon said rod or hand-wheel, whereby it is turned to move the levers; in combining with said long screws, the springs, the levers for throwing in and out, the central screw-rod common to both levers, and the hand-nut or wheel, an adjustable stop to bar the revolution of said nut or wheel in that direction calculated to bring the rolls together whenever in its inward movement the yielding roll has reached its predetermined grinding adjustment; in forming the levers with cupped or yoke-shaped ends which take over the shank of the long screw and the spindles of the screw-rods, respectively, and constitute the means whereby said levers are supported in the machine. In the drawings, Figure 1 is an end elevation, and Fig. 2 a side view, of a single roller mill embodying this invention; Fig. 3, a side elevation, and Fig. 4 a top plan view, of a double mill with the invention applied thereto. A represents the frame of the machine, of any approved or suitable construction. Supported upon the bed-plate *a* of this frame are fixed blocks *b*, which form or afford bearings or boxes for the gudgeons

of the stationary roll B, and other sliding blocks, *c*, receiving the gudgeons of the yielding roller C. Gearing such as usual in this class of machines will be provided to drive the rolls at the requisite speeds and in the intended direction, and above them is placed the ordinary hopper, D, with its feed-roller and regulating gates. Hollow adjusting-screws E are set in lugs *d* projecting from the bed-plate, these screws serving to limit the outward movement of the yielding blocks or boxes. Encircling said screws are the coiled springs *e*, bearing at one end against the blocks, and serving to receive their outward thrust and return them constantly, with the roll which they carry, inward toward the opposite roll, and at the other end seated against the adjustable nuts *e'* upon the screws, whereby their stress may be varied as found advisable. Through the hollow screws pass the smooth spindles of the long screws F, provided at their outer ends with a hand piece or wheel, whereby they can be turned, and at their inner ends are threaded

levers, the heads of the hollow screws E may be turned off true and the levers seated upon their outside inner edges, or lugs may project from the bed-plate at any proper point. In the construction shown in the first two figures the screw-rod *g* is fixed to the lug on the bed-plate, although it is evident that it will be the same device mechanically if threaded therein. In the first case a hand-nut, H, is applied, which being turned or whirled down, the rod will force in the lever-arms, and consequently pry out the long screws, retracting the yielding roll against the force of its springs, and when reversed will let said roll in again simultaneously and co-ordinately at each end. In the second case the screw-rod will have a hand-wheel or crank, its hub resting against the ends of the two levers and controlling them in like manner with the nut as the screw is driven home or let out. In starting the machine, after a temporary interruption in a given "run," it is desirable that the rolls shall be quickly and accurately



PATENT NO. 304,682. BOLTING REEL FRAME.



PATENT NO. 304,468. ROLLER MILL.

into sockets in the sliding boxes, to adjust these and the roll they carry independently at each end of the latter, securing its proper alignment, and to determine primarily the limit to which said roll can approach the other. Now, in order to momentarily or temporarily throw the yielding roll back against the force of its springs and to let it return to its grinding position without disturbing the set of the above mentioned adjusting devices, or any one of them, as well as also to serve as means for controlling or effecting the adjustment between the rolls simultaneously along their whole length, levers G, cupped or recessed at each end and diverging from a central meeting point to the adjusting devices on either hand are provided each lever, in the present instance, at one end partly embracing the shank of the corresponding long screw and bearing against the inner face of its hub *f*, and at the other taking over the spindle of a screw-rod, *g*, entering into or projecting from a lug, *g'*, located centrally of the cross-piece *a'* of the bed-plate. To afford a fulcrum for these

brought to their predetermined grinding adjustment for that run, whatever it may be. As one attendant may stop the machine and another have occasion to start it, or as it may not be readily remembered by the proper attendant what the adjustment was from which the rolls were thrown out, and since carelessness is a factor always to be counted upon, it is evident that some positive and variable control over the resetting of the rolls is a desideratum. There is therefore applied to the end of the fixed screw-rod *g*, a stop, *h*, in shape somewhat like a lathe-dog, making it adjustable along said end by means of a clamping-screw, so that it may be set in or out and intercept and bar the movement of the hand-nut at an earlier or later point as it is whirled out to let the yielding roll in toward the stationary roll. When the screw-rod itself is turned by means of crank or hand-wheel, as above suggested, this adjustable stop may be mounted upon the lug *g'* and its shape suitably changed, or it may be afforded by jam-nuts upon the rod itself, according to circumstances. Its application

with differently constructed instrumentalities for throwing apart the rolls has been illustrated in another application already filed by me, wherein, however, it is not broadly claimed. In a double mill the yielding roll at each end or face may be independently set in or out; but, as it is generally preferred to throw both out simultaneously, the plan indicated in Figs. 3 and 4 has been contrived. Herein the lugs *g'* depend beneath the bed-plate, and the rod *g* passes from end to end of the machine, being held against longitudinal movement by collars *g''* inside the lugs, and having screw-threads cut for a short distance, where it receives the ends of the levers, the cups in the latter being also screw-threads, or nuts provided which bear against the outer faces of the levers, and are held against rotation in any suitable manner. With this construction, when the rod is turned by means of its hand-wheel at either end, the levers at both ends will be simultaneously operated.

BOLTING-REEL FRAME.

Letters Patent No. 304,682, dated September 2, 1884, to William E. Gorton, of Chicago, Illinois. The improvements herein described relate to the construction of bolting-reel frames, such as are used in milling and for other similar purposes. More particularly stated, the invention relates to the construction and arrangement of the ribs by which the bolting cloth is supported. The object of the invention is to provide a construction in reel frames calculated to insure greater strength or rigidity, while at the same time securing a desired lightness in the frame. It is also an object to give to the reel a more nearly cylindrical form and to better support the reel cloth. To these ends the invention consists, primarily, in a reel provided with spiral ribs, combined either with other spiral ribs arranged in an opposite direction and secured thereto, or with other forms of connections uniting the spiral ribs in such manner as to mutually support each other and produce the effect, practically, of a truss. In the accompanying drawings, Figure 1 is a side elevation of the reel, showing one form of my improvement in which a single series of parallel longitudinal ribs are applied spirally to the heads, and in which said longitudinal ribs are made to mutually support each other by circumferential ribs or hoops arranged parallel with the heads of the reel and fastened to the spiral ribs at their points of intersection. Fig. 2 is a second form of this improvement, in which two series of longitudinal ribs are applied spirally to the reel, the said two series being spirally arranged in opposite directions, so as to intersect each other, and fastened to each other at their points of intersection, so as to give a trussing or bracing effect in their rib structure. Fig. 3 is a vertical section through *x x* of Fig. 1, looking toward the adjacent head of the reel. Fig. 4 is a fragmentary vertical section through the head A in the line *yy* of Fig. 3. A A are the heads of the reel, which, so far as relates to the improvement herein claimed, may be made either of solid disk form or with radial arms. As shown, said heads are understood to be of the disk or solid form, with provision for feeding and discharging through hollow gudgeons. B B are the longitudinal ribs of the reel. The distinctive feature of these ribs is that they are extended from one head A to the other in a spiral direction. To give the desired trussing or bracing effect, said ribs are combined either with a similar series of spirally and oppositely directed ribs, as shown in Fig. 2, or with a series of circumferential ribs or hoops, C C, as shown in Fig. 1, or are otherwise similarly connected for the purpose stated. Referring first to Fig. 1, the longitudinal ribs B are shown as passing from one side of the heads A to the opposite side of the other reel head. In other words,

said longitudinal ribs are shown as being made to pass half way around the entire reel in their spiral course from one to the other thereof. The degree or pitch of the spirality of the ribs may, however, be either greater or less than shown, according to the length of the reel or to the weight of the load it is intended to carry. In the use of a single series of such ribs B B, arranged parallel with each other, as shown in Fig. 1, the necessary bracing effect may be obtained by means of one or more circumferential hoops, C C, applied either exteriorly or interiorly to the ribs B, and secured to said ribs at the points of their intersection, as clearly indicated in the drawings. In this construction it is obvious that each one of the spiral ribs operates as a diagonal brace, and that by the connection of the said ribs with each other between their ends by means of the ribs C the ribs B upon one side of the reel are made to coact with those of the other in such manner as to form a unitary truss, calculated to give great rigidity to the reel, and to prevent its sagging under the load which it is called upon to carry in operation. Referring next to Fig. 2, two series of oppositely directed spiral ribs B B are employed, which are riveted or otherwise secured to each other at their several points of intersection, so that a very perfect bracing effect is obtained and great rigidity in the reel structure is secured without the aid of the ribs C C of Fig. 1, albeit the latter may be in this case employed, if desired. For the general purposes of the invention, the several ribs B B C C, may be made either of iron or wood, but it is preferred, generally, to make them of flat metal strips or of wire. It is also immaterial to the general invention herein described in what manner said ribs are secured to the heads A A of the reel, but a desirable construction is shown in the present case for the attachment of the flat metal ribs shown, which mode of attachment will be understood from the following descriptions: Referring to Figs. 3 and 4, the head A of the reel has a marginal inwardly directed cylindric flange, *a*, deepened or thickened inwardly at as many points *a'* as are to form places for the attachment of the longitudinal ribs B B. Radially through these flanges *a* and enlargements or lugs, *a'* are cast or otherwise formed apertures *a''* of proper size to admit the in-

wardly bent ends *b* of the ribs B, and said inserted ends are secured in place by pins *b'*, or other similar or suitable device. The circumferential surfaces of the flanges *a* are also cut away or recessed to admit the superposed part of the rib B flush therewith, in order that the cloth D, when applied to the frame, may lie smooth thereon. Secure attachment of the cloth D may be effected by providing annular recesses *c* in the outer circular surface of the heads, into which the cloth D is drawn by the clamping bands E, provided with tightening devices E', all of familiar construction. While it is preferred to make the frame ribs B of iron, it is evident that, owing to the spiral direction of the said ribs, they may be advantageously made of light bars of tough wood bent to the desired shape, and that a frame so constructed will have the merits of great lightness and strength. The construction shown will evidently give a cylindrical shape to the frame and its clothing, from which the reel is calculated to run with greater ease and steadiness than attends the rotation of the prismatic form of reel heretofore generally in use, with the obvious advantage of imposing a more uniform strain upon the cloth. The best way to construct the reel frame shown, in order to give it accurately cylindric shape, is probably to employ an exterior semi-cylindric form, within which the several ribs may be bent to shape and secured to the heads and to each other while thereby held in proper position.

ART OF MAKING A PRODUCT FROM INDIAN CORN KNOWN AS CEREALINE.

Patent No. 304,722, dated September 9, 1884, to Joseph Franklin Gent, of Columbus, Ind. This invention relates to the art of manufacturing the product from Indian corn, now known in the market as "cerealine" and by other names. The object of the invention is to avoid loss or waste, and thus manufacture cerealine so economically that it can be sold at prices making it available for distilling purposes as well as for brewing purposes and as an edible. To this end proceed as follows: The corn is first thoroughly cleaned in the dry state. It is then steamed just enough to soften and toughen the germs and husks, so that they may not grind up in the reduction which

follows, while the glutinous or starchy interior remains practically unaffected by the steam. The corn thus steamed is immediately coarsely ground or broken, preferably between corrugated rolls, reducing it to a coarse meal composed of separate hulls, germs, and granules of the starchy portion mixed with some little finely-reduced starchy meal. This material is at once screened to separate therefrom the hulls as well as the fine meal. The remaining material, composed of coarse starchy granules and germs, is then sized into grades by means of suitable screens or sieves, and then, while the germs are still soft, submitted, each grade separately, to the action of a mechanical picker or germ-extractor for picking or extracting the soft germs from the harder coarse starchy granules. This cleansed granular material is then again steamed to soften it, and is finally, while still soft, pressed and dried, preferably by passing it through hot rolls, so that the granules will be flattened into thin hard flakes, which constitute the cerealine.

The advantages of the use of cerealine for distilling spirituous liquors are similar to the advantages from its use in the brewing of malt liquors. It can be reduced very much more perfectly and more rapidly, at a

very much lower temperature than the corn-meal now commonly used. Thus great economy in the expenditure of steam, time and labor is effected in preparing the mash.

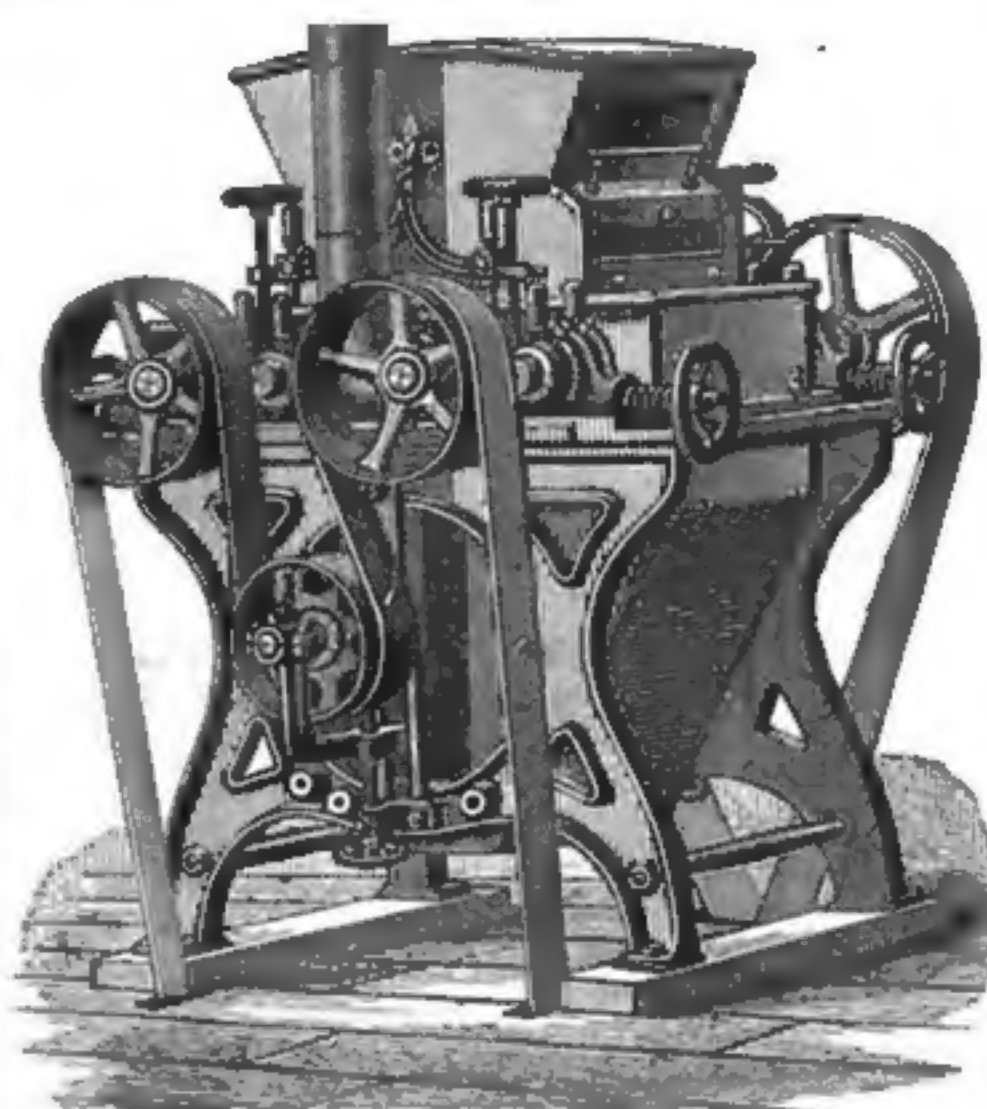
MOTTO FOR OUR NAVY.

Commander United States man-of-war. "I notice that in some countries each naval vessel is given an appropriate motto. Seems a pretty idea." Citizen. "Well, yes, it is not bad." "Now, there is my own vessel, for instance. I wish I had the authority to give it a motto. American history furnishes many good ones—for instance, 'Don't give up the ship?' " "That would certainly sound well; but there is a better one on that big sign down there on the beach." "Indeed! What is it? I can't read at this distance." "Don't venture beyond your depth."—*Philadelphia Call.*

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SCIENTIFIC AND MECHANICAL

STEAM BOILERS.

BOILERS explode only from over-pressure. There is no mystery about it, says Mr. Geo. Marshall, in the *American Machinist*. The theories of powerful gases generated or caused by the absence of air; the power and danger of a "wedge" formed from steam generation or surface coating of water, and many other ideas of this kind to envelop the causes of boiler explosions, all have their believers; but it is not this class of people for whom this article is written, but for those only who look for a natural solution of those disasters, the effects of which have carried grief into so many homes and financial disaster to many whose entire capital was invested in their boiler, engine, and machinery—the savings of a lifetime destroyed in a moment. By over-pressure it must not be understood that a pressure is meant so far removed from the average working pressure of the boiler, as it is the pressure employed over and above what the boiler was capable of carrying at the time of the disaster. This may be caused by improper construction on the part of the builder, improper method of repairing when repairs were resorted to, or a deterioration in the strength of the structure by corrosion, incrustation, oxidation, channeling, or other causes of this nature, which due precaution and proper inspection by competent, educated inspectors would have entirely averted, as such causes as already enumerated are possible of detection.

Improper construction is not as fully understood as it should be, nor will it be until purchasers appoint competent inspectors. The competition is so great between manufacturers, as a rule, that dishonest practices in building are almost forced upon the builder, from the fact that steam users generally look more to the first cost of their plant than they do to its proper construction.

Ignorance on the part of journeymen boiler makers when sent to make needed repairs, and inattention on the part of foremen and employes to the actual requirements of the case, can and do add to the risk of explosion, from the fact that unusual rigidity in certain parts of the boiler accelerates the disaster by throwing unusual strain on a weak part. For this reason only the very best talent should be employed in repairing, as that is of equal importance to the strength of the original structure. But, unfortunately, it seldom happens that intelligent, educated workmen are employed on this class of work. In the majority of cases those employed for this have risen from helpers, on account of their ability to please customers by their hard work and the nominal saving of expense by such hard labor. They do not as a rule understand why a patch, small or large, sufficient in itself to remove the defective part, is not of equal strength to any other part of the boiler; neither do they understand anything about the expansion and contraction taking place, and for this cause, although good workmen as workmen, yet in other respects they are entirely incompetent to perform the duties assigned to them. * *

The use of a surface blow is found effective in removing a part of the precipitation from foul waters. It can, however, only be effective when used. In many cases such things are ornamental, never being used after their introduction. The impurities in water consist mostly of carbonate of lime, sulphate of lime, and carbonate of magnesia. Carbonate of lime is held in solution by an excess of carbonic acid, and is in this case present as a bicarbonate. On the application of heat to generate steam, the carbonic acid is dispelled and carbonate precip-

itated. Sulphate of lime, chemically composed of the same elements as plaster of Paris, is also precipitated by heat, and is present in nearly all waters used for steam, or, in fact, for domestic purposes. Carbonate of magnesia is generally found in smaller quantities than either of the other ingredients, but in proportion to quantity is just as injurious as the others. When these salts are allowed to remain undisturbed, increased consumption of fuel is the result, and the metal of which the boiler is composed is seriously, in some cases dangerously, burned. Economy, if not safety, would suggest their removal by the person in care of the boiler, but in many cases this will not be done thoroughly if at all, unless the owner in person gives his attention to the matter.

* * A method for turning to account the wasted force represented by the daily rise and fall of the tides has been recently invented in England. The invention, which has been patented by Mr. C. Maynard Walker, promises well, by reason of the simplicity of the means employed, to effect the purpose in view. Of machinery there is none, and two or three tanks, which may be of concrete, with necessary inflow and outflow pipes, and one ball and socket valve, are all the appliances ordinarily required. The purposes which may be served, and the ways in which the system may be adapted to those purposes, are many. The large working model which is exhibited in London shows how the invention may be applied to the lifting of sewage or effluent water from the lowest level of the sewers, and to its discharge into the sea, at low water, or preferably, at high water. An examination of the model and of diagrams illustrating the working of the method will show that the tanks may be placed either side by side or built one over the other, as may be most economical provided that one is so far below the low-water level as to insure a sufficient head of water to raise an equal column of sewage to the point at which it will flow off. Another application of the patent is to the supply of inland towns with salt or fresh water. By a slight modification in the arrangements of the tanks, and the use of a turbine, power may be obtained for the working machinery, and it has been suggested that this system might be adopted as a cheap way of supplying hydraulic power at the new Tilbury Docks, London, since, with comparatively little expense, the concrete tanks could be put in place while the excavations are in progress, the ground above being then built upon.

* * At last, by the progress of science, says *Engineering*, we have obtained an artificial light which is nearly all that could be wished. The primitive torch and candle, in which a solid was consumed, the oil lamp which burned a liquid, the flaming jet of gas, have given place in turn to the more ethereal source supplied by electricity, and each advance has been in the direction of greater purity with the finer medium employed. The last step reaches to absolute purity, and is unquestionably the light of the future, if for no other reason than this. On the score of health alone, as we have endeavored to show, its introduction ought to be hastened as much as possible, nor should it be only the luxury of the rich, as a famous electrician, recently deceased, proclaimed it, but the necessity of the poor. Where purity and brightness are most needed, there purity and brightness should first come.

* * The changes which thermometers undergo when heated for a long time have received the attention of the French Academy of Sciences. It appears from investigations made in this line, that in manufactories of printers' ink, where oils are heated to a temperature of some 538° F. for many days, the most accurate thermometers often be-

come so changed as to indicate errors of ten or more degrees. Similar changes of much lower temperatures are also mentioned. Thus the aerometers which are employed in sugar refineries where the molasses is treated by osmosis, are plunged for many days in liquids which are heated to 203° F.; and although this temperature is below the boiling point of water, it is found sufficient to completely modify the aerometers and to soften the glass enough to render them untrustworthy.

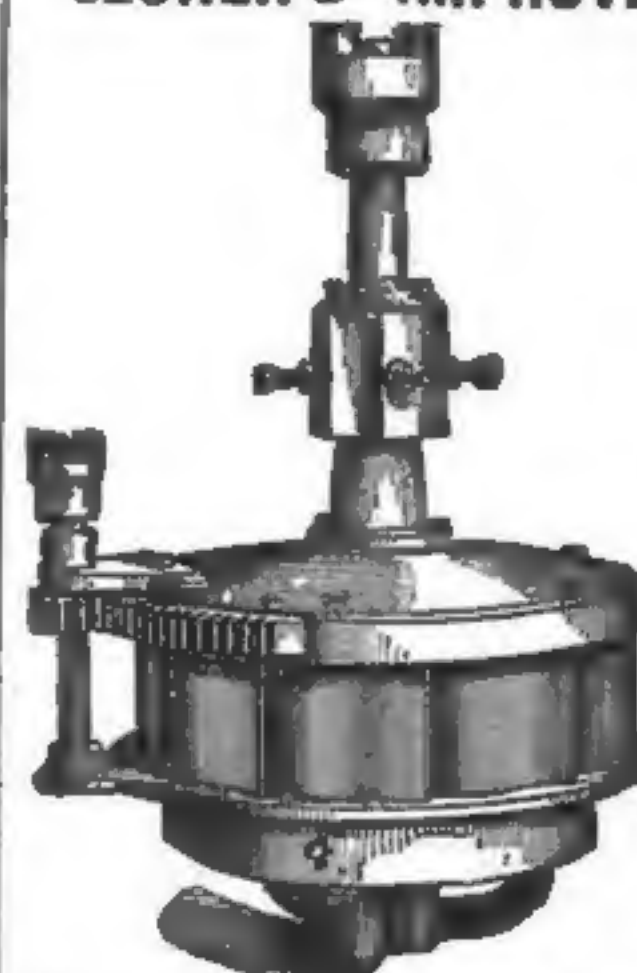
* * The cost of lubricants for machinery is hardly appreciated by even those most interested in the subject. In the city of Lowell, Mass., alone, 133,000 gallons of oil are used yearly for lubricating machinery. In many establishments in the country this item of expense is very large, but is not given the attention it deserves. The waste by careless handling of oil cans, etc., is great, reducing profits considerably.

* * Few people are aware of the important work now under way in Northern Minnesota, to guard against the dangers of high water and the inconveniences of low water in the Mississippi River. A number of lakes in that region are being connected into a reservoir system, which is to collect and feed water as may be required.

* * Dr. Tyndall states that of the radiant energy set up by a gas flame, only the $\frac{1}{10}$ part is luminous; the hot products of combustion carry off at least four times as much energy as is radiated, so that not more than one-hundredth part of the heat evolved in combustion is converted into light.

* * A French paper states that a quantity of chloride of lime sent from France into Spain was carefully fumigated at the frontier by the zealous quarantine authorities of King Alfonso.

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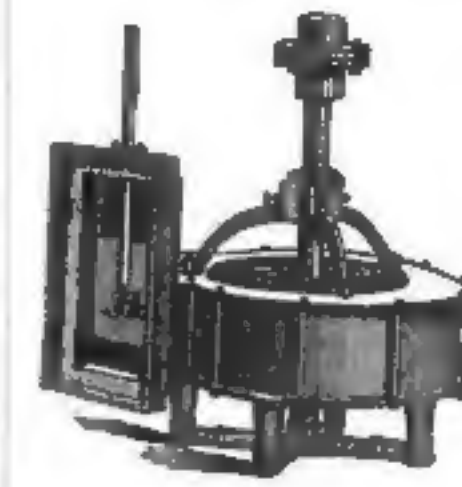
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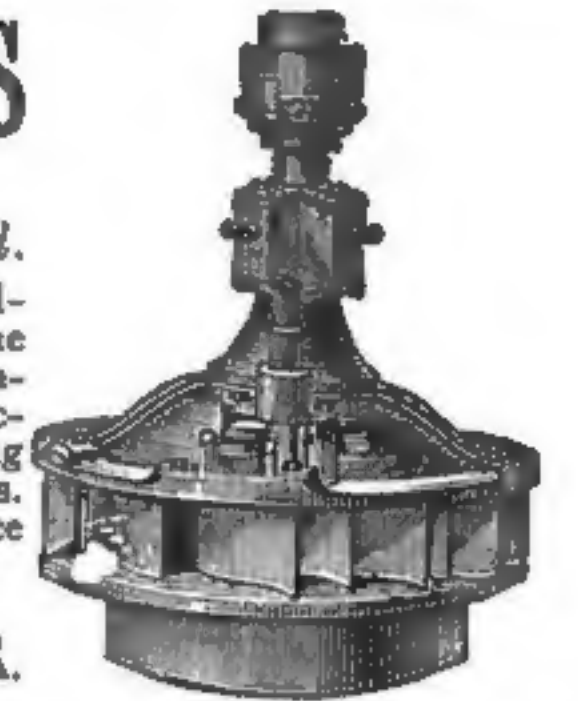
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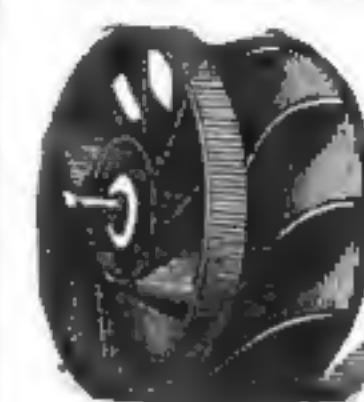
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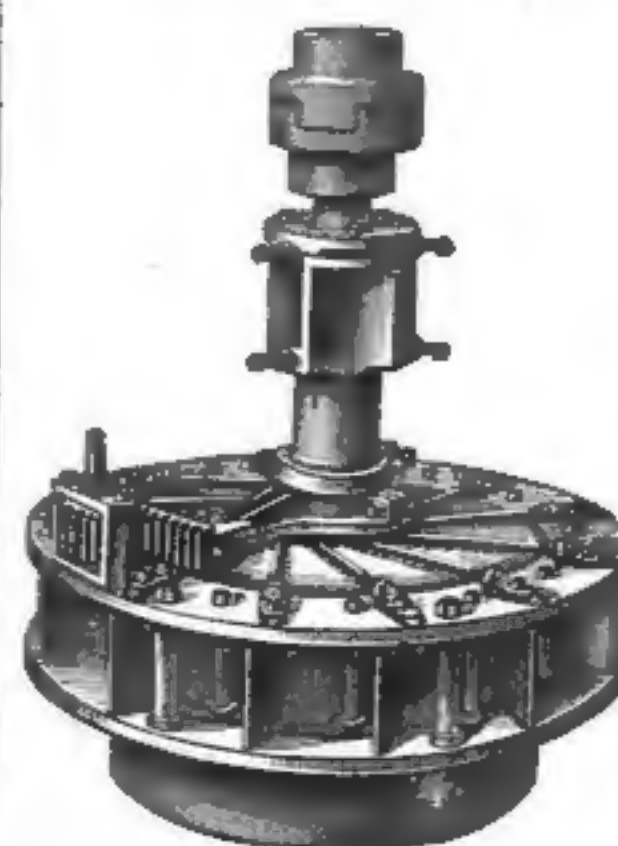
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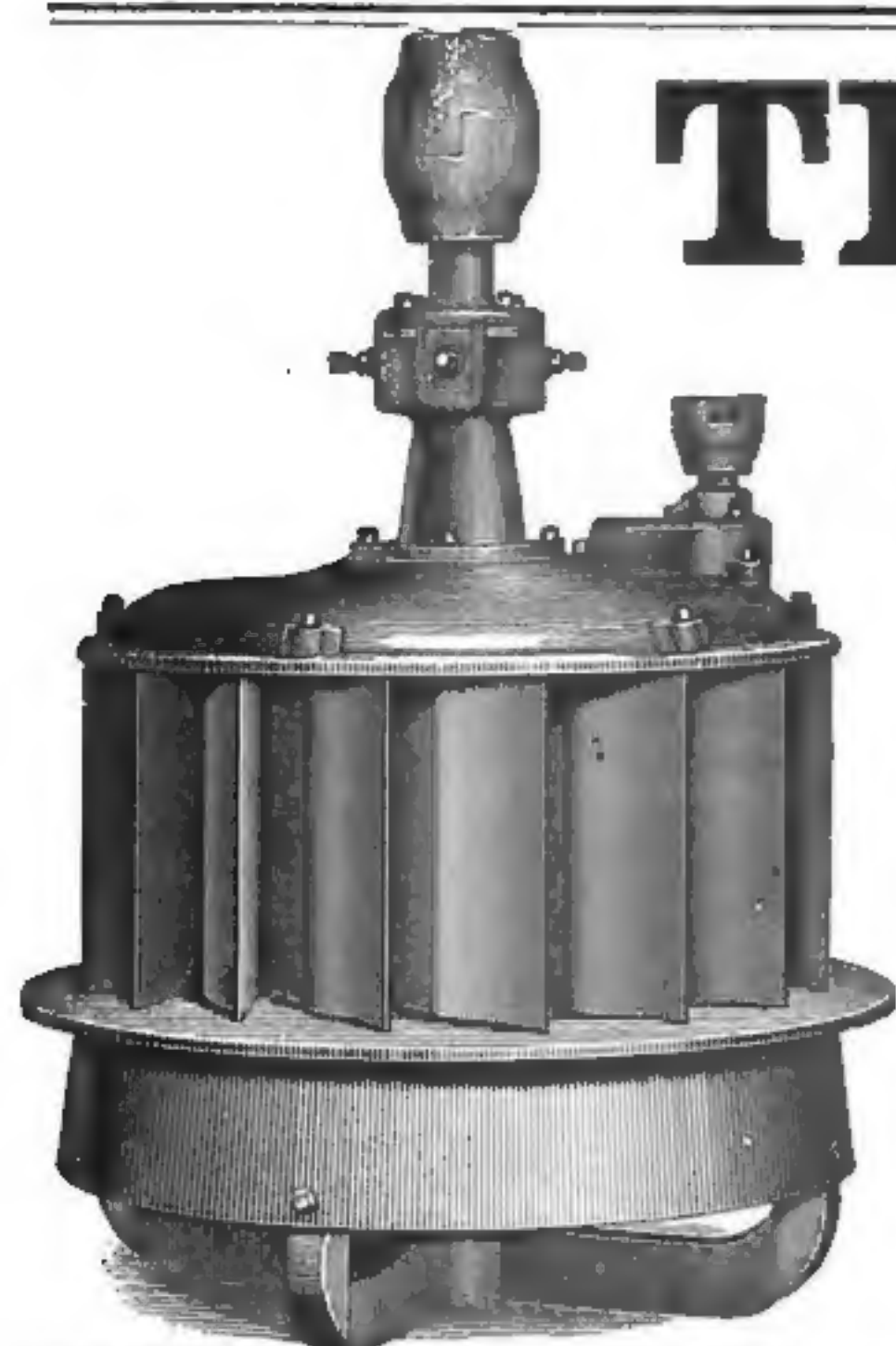
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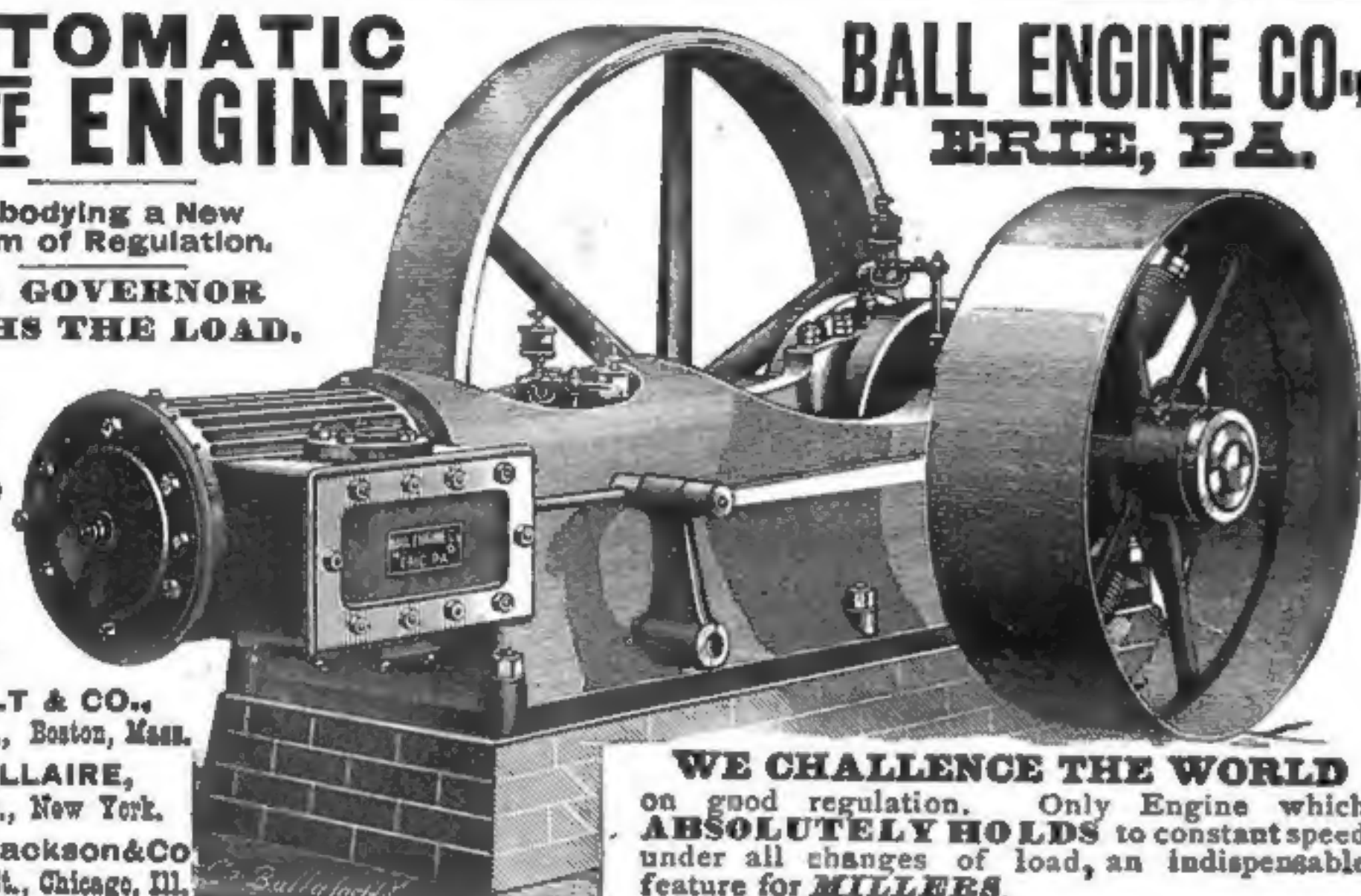
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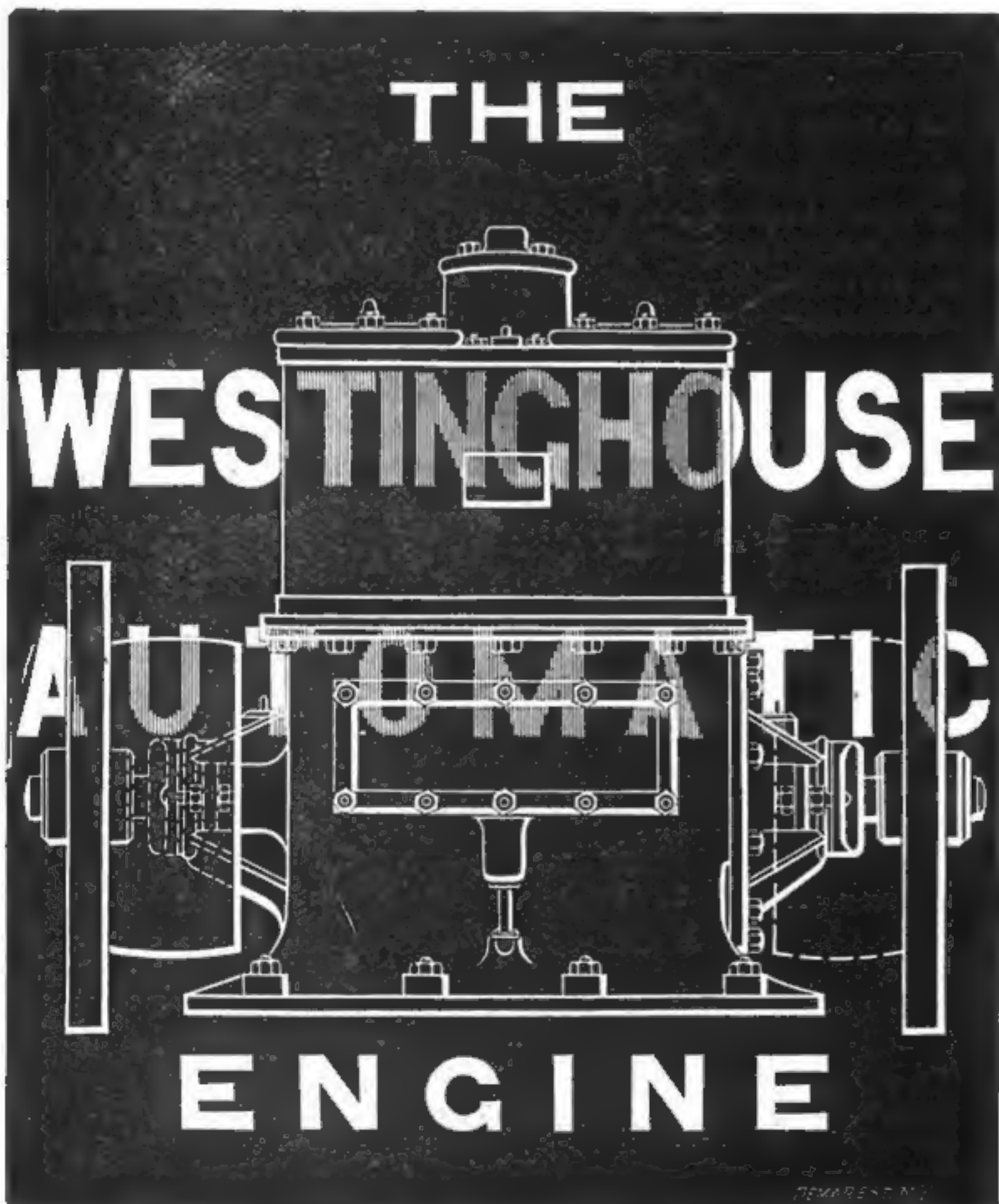
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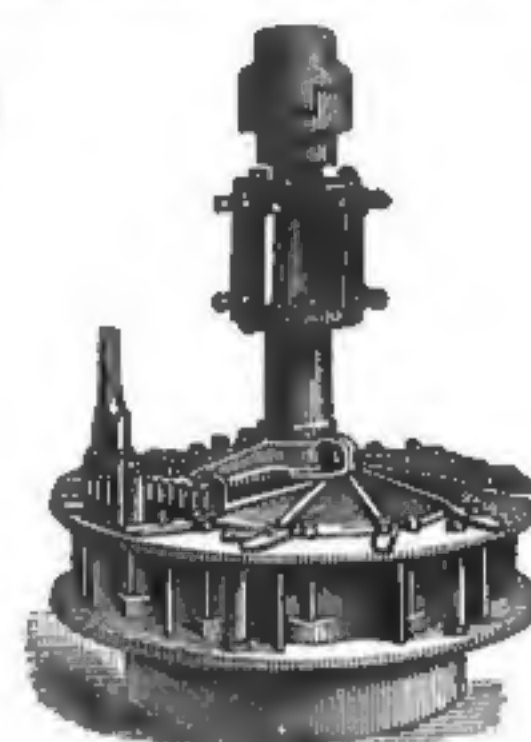
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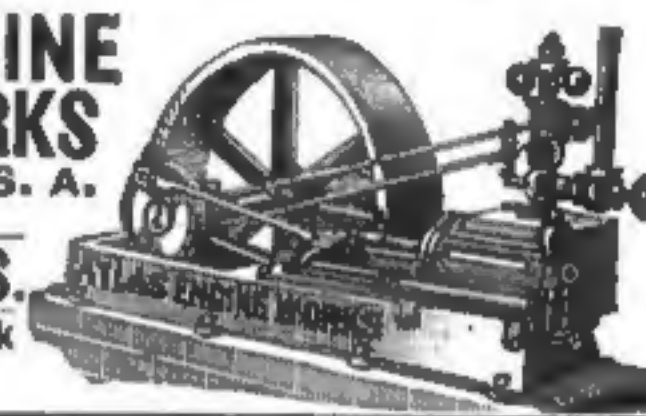
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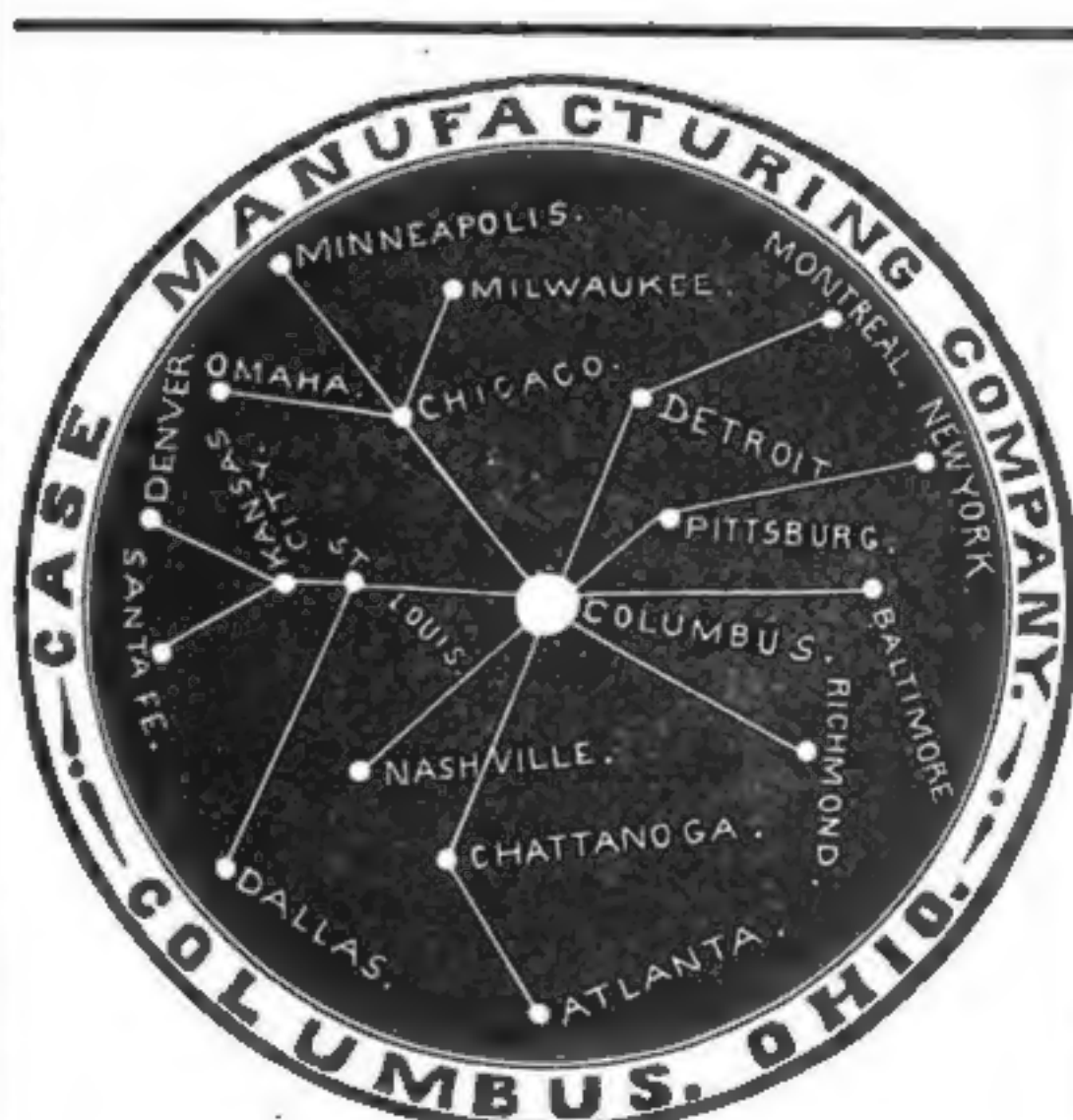
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DALRYMPLE'S WHEAT AND DAKOTA.

Mr. Oliver Dalrymple, whose arrival in Buffalo on an important mission connected with the grain trade, we advert to elsewhere, has completed the arrangements in view, and returned home to St. Paul. He met the Committee of the Western Elevating Association and proposed, if proper advances were made by that body, to ship not only the surplus of his Dakota wheat crop of half a million bushels, but whatever he might handle besides. He stated that he should begin shipping his crop at once. The grain will come direct by lake from Duluth. No particular line will be employed, but vessels will be chartered as needed. It is understood that the grain will be shipped as rapidly as possible.

While at present using Duluth as the shipping point of his wheat, Mr. Dalrymple has in view the building up of a new port on a tract of land owned by him near Duluth. This is a matter for future development, and will depend on the direction taken by various railroad lines now building towards Lake Superior. He thinks it possible that he may have to build an elevator in Duluth this season to accommodate his business. As to the grain market, he is of the opinion that it has touched bottom and prices will slowly advance before long.

Mr. Dalrymple, although he lives in St. Paul, Minn., confines his farming operations to Dakota, where in Cass and Trail counties he has a two-thirds interest in 75,000 acres of as fine wheat land as the sun ever shown upon. Nine years ago when this land was bought for from forty cents to \$5 an acre there was not the habitation of man within 250 miles north or south. Now one cannot in the same distance in those directions lose sight of the roofs of houses or barns. There has been almost as great a change in the value of the land as in its surroundings, for the value has increased to \$20 and \$25 per acre. For the nine years that Mr. Dalrymple has operated these lands he has year by year put more acres under cultivation until this year 30,000 acres were sown to wheat. The product, as indicated by that so far threshed, will be about 600,000 bushels.

Mr. Dalrymple employs in his farming operations 10,000 men, 800 horses and mules, 200 self-binding reapers, and thirty steam threshers. The latter are made by the Pitts Agricultural Works, of this city. The plowing is done by wheel gang plows. Steam is not used, as it is necessary to have horses and mules for seeding and reaping and more economical to employ them in plowing. The land is divided into farms of 6,000 acres each and they sub-divided into farms of 2,000 acres each. Each large division has a superintendent, and each smaller one a foreman, and a full equipment of teams, machinery, and buildings. All the employees are boarded by Mr. Dalrymple, the supplies being purchased at wholesale and dealt out on requisitions from the general supply storehouse. Everything is methodized. The superintendents are men learned in the farming business as carried on by Mr. Dalrymple, and a system thorough and comprehensive prevails everywhere.

Mr. Dalrymple was born and brought up in Warren county, Pa., near the line of New York State. Mrs. Dalrymple was from Chautauqua county. "I have lived in St. Paul thirty years," said Mr. Dalrymple, "and seen it grow from 10,000 to 100,000." When asked relative to his age he said: "You may tell them that I have not yet got to the gray-haired, broad-shouldered man of sin."

Speaking of Dakota and the adjoining territory, Mr. Dalrymple said: "Buffalo wants to keep her eye on the new Northwest. Her location is such that if she makes the most of her opportunities she may profit largely. My visit here is for the purpose of seeing if I can make favorable arrangements with Buffalo elevator men for the storage of a part of this year's crop. If I should be successful I shall ship on to Duluth and thence here by water. Buffalo is the natural distributing point for the products of the Northwest, and I doubt not, if the proper inducements are made here, elevators may be largely used by western wheat growers. Our wheat is known as Scotch Fife. It is graded as No. 1 hard, and is used much in the manufacture of patent process flour. It always commands a premium of from 10 to 15 cents a bushel over ordinary wheat. We sell principally to exporters, although Duluth and St. Paul use considerable. During last summer much of our wheat went by way of Montreal."

The contract made by Mr. Dalrymple to store his crop of wheat in Buffalo elevators requires that

at least 500,000 bushels shall be forwarded, although there is a probability that a much larger amount will arrive. The contract has been reported as being one-fourth of a cent per bushel. This is the rate per ten days. What has been done in the way of special inducements is to make the date when winter rates begin, November 10th, instead of November 20th. From that time until five days after the opening of navigation, two cents per bushel is charged. The inducement is therefore ten days free storage. Storage rates are lower here than elsewhere. Various lots of wheat may be kept separate here. They cannot elsewhere. Advantage may at once be taken of a favorable New York market which cannot be taken further west. Other growers of wheat are expected to partake of Buffalo's storage advantages before the season closes.

Notes from the Mills.

The Windom, Minn., town mill was started up again last week.

P. Bergen, Fairview, Ill., has bought a double roller mill of Allis & Co.

Jno. Ream, Hagerstown, Md., has ordered from Allis & Co. a double machine.

Williams & Co., Libertyville, Mo., have bought a double machine from Allis & Co.

The Dresden Milling Co., Dresden, O., have bought nine double Allis machines.

R. Stelling, Pt. Washington, Wis., has bought a double porcelain roller mill of Allis & Co.

Bush & Southwell, Wilson, N. Y., have ordered from Allis & Co. three complete double machines.

J. P. Parker, Ripley, Ohio, has bought a double roller mill of E. P. Allis & Co., Milwaukee, Wis.

W. Rhodes, Fertile, Iowa, has ordered three complete double roller mills from E. P. Allis & Co.

The Hudnuts, Terre Haute, Ind., have ordered a double machine from Allis & Co., Milwaukee, Wis.

Louis Munch, Chrystal Lake, Ill., has ordered four double machines, all complete, from E. P. Allis & Co.

Sinker, Davis & Co., Indianapolis, Ind., have placed an order with E. P. Allis & Co., for a double machine.

Near Mingo, Ohio, Sept. 7, Turpie & Parlett's flouring mill was burned down. Loss, \$3,000; no insurance.

On Sept. 11th, Mr. Hard's flour mill, of St. Augustin, Can., together with the dwelling attached, was burned down.

The Case Mfg. Co., Columbus, O., are furnishing J. W. Scott, Bentonsport, Iowa, with breaks, rolls, purifiers, etc.

The Higginsville Milling Co., Higginsville, Mo., has bought a double roller mill of E. P. Allis & Co., Milwaukee, Wis.

The Cleveland Milling Co., Cleveland, Ohio, have ordered from Allis & Co. two more double machines, all complete.

According to the *Tribune*, Duluth will have a capacity for 40,000,000 bushels of wheat when the new houses are finished.

Near Lebanon, Ind., Sept. 11th, a fire occurred at Whitestown, completely destroying the flouring mills of John W. Bowser.

At Irving, Ill., Sept. 6, McDavid & Whitten's elevator, with all its contents, was burned. Loss, \$26,000; insurance, \$7,500.

The Board of Grain Inspectors for Dakota have adopted rules of grading copied after those of Duluth, calling "Northern" wheat "Dakota."

Frye & Co., Lamar, Mo., are putting in eight pairs Allis rolls in Gray's noiseless belt frames, iron work, belting, etc., for complete roller mill.

At Bridgeport, Conn., Sept. 13th, a large grist-mill, owned by George Cook, was burned. Loss, \$10,000; no insurance. The mill was built in 1792.

The Northwestern mills, at Kewaunee, Wis., shut down one day last week for an indefinite time, and while closed will undergo many much needed repairs.

It is said that the Des Moines Iowa starch works will soon commence active work and run to their full capacity during the coming season, using 7,000 bushels of corn per day.

At Nebraska City, Neb., Sept. 11th, Colton, Duff & Co.'s elevator was burned; also one car loaded with grain. Loss, \$8,000; no insurance. The fire is supposed to have been caused by friction of the machinery.

John Fetzer, of Forestville, Wis., recently received some new machinery for his flouring mill, the aggregate cost of which is about \$700. He has got his mill in shape to furnish as good flour

as any mill in the country, and expects a good run the coming fall and winter.

Senor Romero, Mexican Minister at Washington, D. C., has received a communication announcing the failure of the corn crop in Chihuahua and asking him to notify exporters of corn in this country who may wish to export it for seed to Chihuahua to address the Government of that State, giving price, quality, and quantity.

The elevators at Carrington and Melville, Dak., erected by the Carrington & Casey Land Company, are completed and receiving grain. Each elevator has a capacity of about 35,000 bushels. Wheat raised on the Carrington & Casey Company's farm near Melville weighs 59½ pounds per bushel as it leaves the machine and is very clean and bright.

At Moore's Vineyard, near Columbus, Ind., September 2, fire broke out in the ox stable and outbuildings of James and John Taylor's large flouring and saw mills, burning them to the ground. A large amount of feed stored there was burned. Several thousand feet of lumber adjoining in the yards was also burned. Loss about \$5,000.

Bowman & Kellogg, of Atchison, Kan., after a thorough investigation of all the different systems, placed their order with Allis & Co. for the complete outfit for their mill, which is to be rebuilt on the roller system. The order embraces twenty-two pairs of the celebrated Allis rolls in Gray's noiseless belt frames. The mill will have a capacity of 250 to 300 barrels when completed.

New wheat is beginning to come into Groton Dakota at a lively rate, grading No. 1 soft, weighs sixty pounds and upwards to the bushel, and brings 55 cents. F. H. Smith, a farmer living nine miles from Groton, was in town with a load of wheat on one wagon, drawn by four horses, that tipped the scales at 10,080 lbs, or 168 bushels. He has threshed out 13,000 bushels of wheat this season, and 100 bushels to the load is considered a light load for him to haul to market. The average yield of wheat for this section, as far as can be judged, will not vary much from twenty bushels to the acre.

The Ahnapee, Wis., *Record* says: We have here an enterprising, lively little city of 1,000 inhabitants, and a good supply of go-ahead-iveness, but no merchant flouring mill, and it is a want that has long been felt. It really seems to us that with a little encouragement and in the proper spirit, one can be secured. We have excellent water facilities here, and good dockage, and steamers touch our shores daily the year round. The prospect for a railroad in two years are good, decidedly good. The market for flour and feed is larger than the most sanguine have ever dreamed of, and a handsome patronage would be tendered to the parties who take advantage of the splendid opportunity offered to locate in our thriving burg.

An elevator man on 'Change at Indianapolis said last Saturday: "Indianapolis is in a bad way so far as her grain market is concerned. We have no wheat, no corn, and no oats to speak of. The wheat crop has been overestimated. There will not be in excess of 31,000,000 bushels in the state. Many fields which would have yielded in the aggregate several million bushels, are not worth the cutting. The prices realized are very poor too. Parke county wheat is worth from 35 to 55 cents, and the county has neither corn nor grass. In fact the state is very 'spotted.' North and west there will be the finest corn ever raised in Indiana, notably in Howard county, but south and southeast there will be a small low-grade crop. Probably three-fourths of an average will be realized in corn."

Among recent orders received by G. S. Cranson & Son for their Silver Creek roller buckwheat shucker are the following: Acme Milling Co., Olean, N. Y.; E. Lewis, Merryall, Pa.; D. Strobe, Luther's Mills, Pa.; D. I. Bennett, Shawnee, Pa.; Capron & Wolverton, Albany, N. Y.; W. A. Spongler, Polk, Pa.; Stewart & Marselis, Ft. Plain, N. Y.; E. D. Halsey, Rockaway, N. Y.; O. & S. M. Davidson, Hopewell Junction, N. Y.; H. H. Hopler, Stillwater, N. J.; Geo. Q. Moon & Co., Binghamton, N. Y.; A. H. Randall, Homer, Mich.; M. M. & E. F. Connett, Brookside, N. J.; Kerr Hill Mill Co., Titusville, Pa.; J. W. & H. Coddington, Plainfield, N. J.; A. Good, Newberry, Pa.; F. Townsend, Albany, N. Y.; M. H. Kresge, Gilbert, Pa.; Sovereign & Dorland, Flanders, N. J.; Miner & Thomas, Wilkesbarre, Pa.; H. C. Spengler, Chatham Centre, N. Y.

"Is that elevator just completed at Newport News the largest in the world, as it is claimed to be?" was asked of John Jackson by a *Globe-Democrat* reporter. "No, the St. Louis Elevator is larger. The Newport News Elevator has a capacity, it is claimed, of 1,600,000 bushels, while the estimated capacity of the St. Louis is 2,000,000 bushels. It will not hold quite that amount, however, as we must leave some space for running the grain. We have had in the elevator at one time

1,800,000 bushels of grain, which shows a greater capacity than is claimed for the Newport News concern. We have also storage room for 200,000 sacks of grain. The elevator next to the St. Louis in size is the Union, which holds 1,500,000 bushels. The largest elevator in Chicago is Armour, Dole & Company's Elevator D, which holds 1,800,000 bushels, while there are five other elevators in that city with a claimed capacity of 1,500,000 bushels."

Kreider, Campbell & Co., Philadelphia, Pa., have sold to the following parties B. T. Trimmer's patent smut machine quite recently: W. H. Gibbons, Parkersburg, Pa.; Latimer & Co., (4 machines) Philadelphia, Pa.; Reuben Bergman, Ephrata, Pa.; Amos Patterson, Jennie Station, Pa.; Jonas Crisman, Berwick, Pa.; Elk Horn Milling Co., Booneville, Ind.; Wm. M. Ruark & Son, Westover, Md.; J. D. Thompson, Morristown, N. J.; Wm. Pyle & Son, Bryn Mawr, Pa.; Samuel Malone, Salisbury, Md.; C. A. Gambrell Mfg. Co., Baltimore, Md.; Geo. F. Seitz, Glen Rock, Pa.; John Kennedy, Bedington, Va.; A. Robertson, Shamokin, Pa.; Levi Lantz, Lisbon, Pa.; S. C. Wagner, Newville, Pa.; Stilwell & Bierce Mfg. Co., (4 machines) Dayton, O.; Jos. R. Diehl, New Oxford, Pa.; Marion Forbush, Frewsburg, N. Y.; H. W. Lane, Warren, Pa.; C. K. Bullock, Philadelphia, Pa.; Williams & Hawkins, Chardon, O.; C. E. Miller, Ward Spring, Va.; John F. Cline, Goldsboro, Pa.; Spaulding Bros., Petersburg, Mich.; J. K. Fisher, Auburn, Pa.; B. C. Stouffer, Waynesboro, Pa.; Thomas W. Jackson, Parkersburg, Pa.; J. McJunkin, Mercer, Pa., and James M. High, Douglasville, Pa.

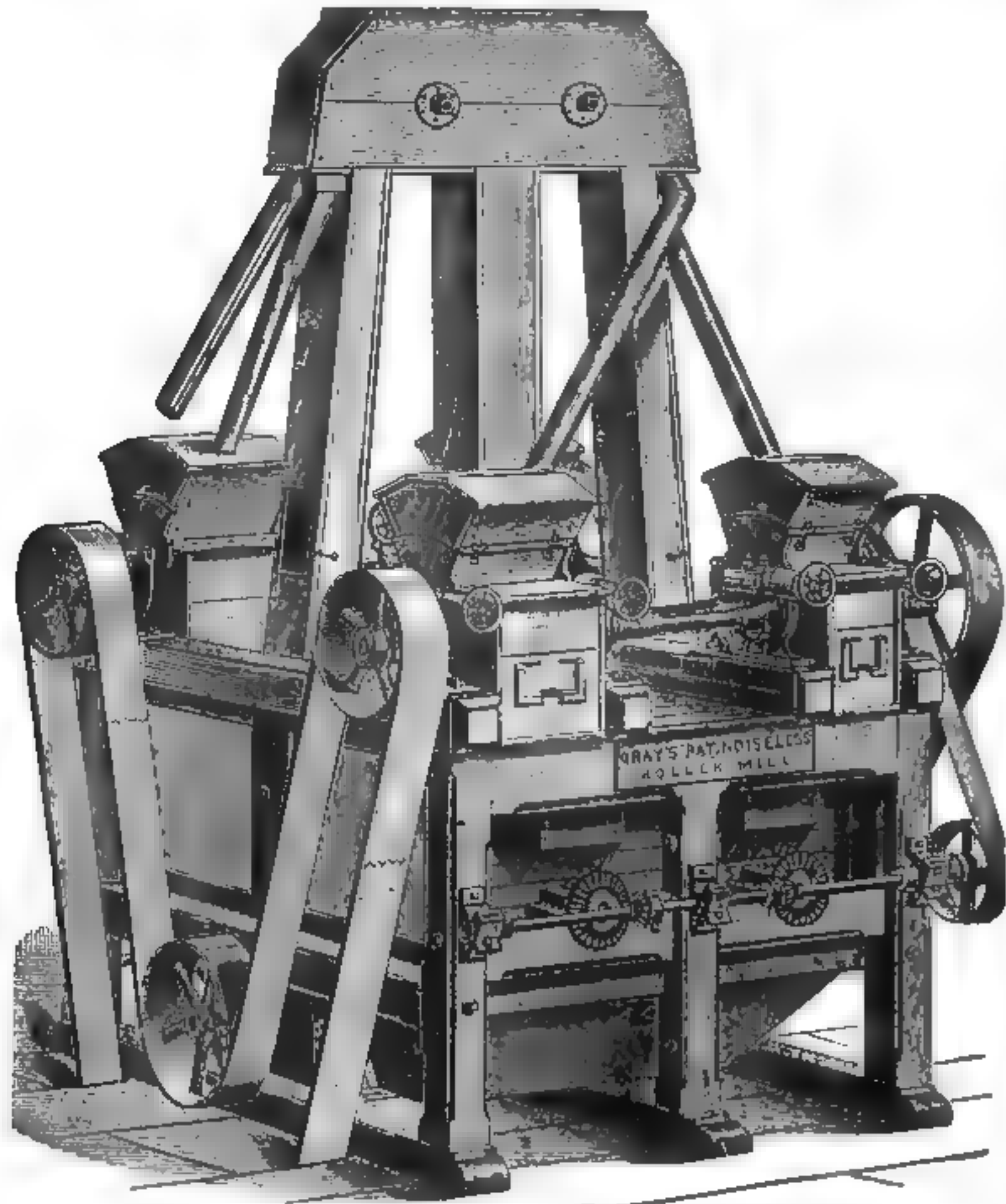
The St. Paul *Pioneer Press*, in a recent article on grain inspection in the northwest, gave an account of the widespread dissatisfaction existing among the farmers of Minnesota and Dakota relative to the system at present prevailing of grain grading and elevating. At present it is claimed that the farmer is completely in the hands of the elevator men in the matter of grading, and it is claimed that the farmers have no protection against false weights or the various devices by which the grades the farmers are entitled to are docked for dirt, dampness or other causes. It is apparent that a wide range of temptation is offered for dishonest grading at the expense of the farmers. The *Pioneer Press*, appreciating the interests involved in this matter, submits the following plan, proposed by a correspondent of that paper. The plan is briefly this: To make a law providing for a state grade, the appointment of a state board of commissioners and of state inspectors, and to provide that all wheat must be weighed on scales with an approved apparatus for receiving and holding the grain while it is being weighed—scale to be inspected and sealed—with criminal punishment for violation. Each elevator to have a good cleaning apparatus, with option to farmer to have grain cleaned before selling, in case of dispute as to grade; and, finally (which is of the greatest importance), to make all elevators grade the grain and give a receipt for what they receive.

Advices from Red Wing, Minn., Sept. 13, state that the schedule of the assets and liabilities of the Minnesota Elevator Company has been filed with the County Clerk. The schedule of the Mazeppa Mill Company will not be ready until next week. Following is the amount of notes owing by the Elevator Company: \$158,416; contingent liabilities, \$38,000. In addition to the above there are outstanding the following notes: July 13, 1884, P. Brockman & Co., St. Louis, Mo., collateral, \$10,000; July 13, 1884, P. Brockman & Co., St. Louis, Mo., collateral, \$10,000; July 13, 1884, P. Brockman & Co., St. Louis, Mo., collateral, \$10,000. Three notes were given Brockman & Co., at their own request, as collateral in an account that the Minnesota Elevator Company now owes them; as appears in the schedule of accounts payable.

ASSETS.	
Real estate in Minnesota, - - - - -	\$63,167.13
Personal property, - - - - -	43,321.43
Cash, - - - - -	8,300.00
Wheat in elevators, 37,141 bushels, - - -	24,823.98
Wheat in transit, 9,080 bushels, - - -	7,182.77
Oats in elevators, 1,279 bushels, - - -	255.91
Barley, 781 bushels, - - - - -	331.80
Corn, 753 bushels, - - - - -	414.18
Screenings, 642 bushels, - - - - -	154.42
Rye, 448 bushels, - - - - -	224.00
Flour and feed at stations, - - - - -	4,359.11
Bills receivable, - - - - -	41,368.61
Accounts receivable, - - - - -	40,574.88
Bonds and stocks, - - - - -	4,809.20
Real estate in Wisconsin, - - - - -	4,000.00
Personal property in Wisconsin, - - - - -	30,970.31
Total assets, - - - - -	\$274,505.08
LIABILITIES.	
Bills payable, - - - - -	\$158,416.95
Accounts payable, - - - - -	65,077.12
Total liabilities, - - - - -	\$223,494.07
Excess of assets over liabilities, - - - - -	51,011.01
OFFSETS.	
Contingent assets, - - - - -	\$38,000.00
Contingent liabilities, - - - - -	38,000.00



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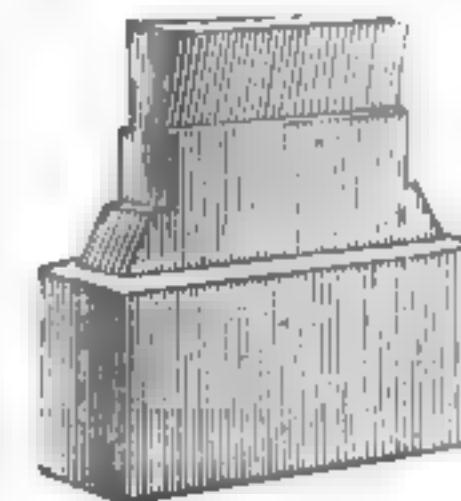
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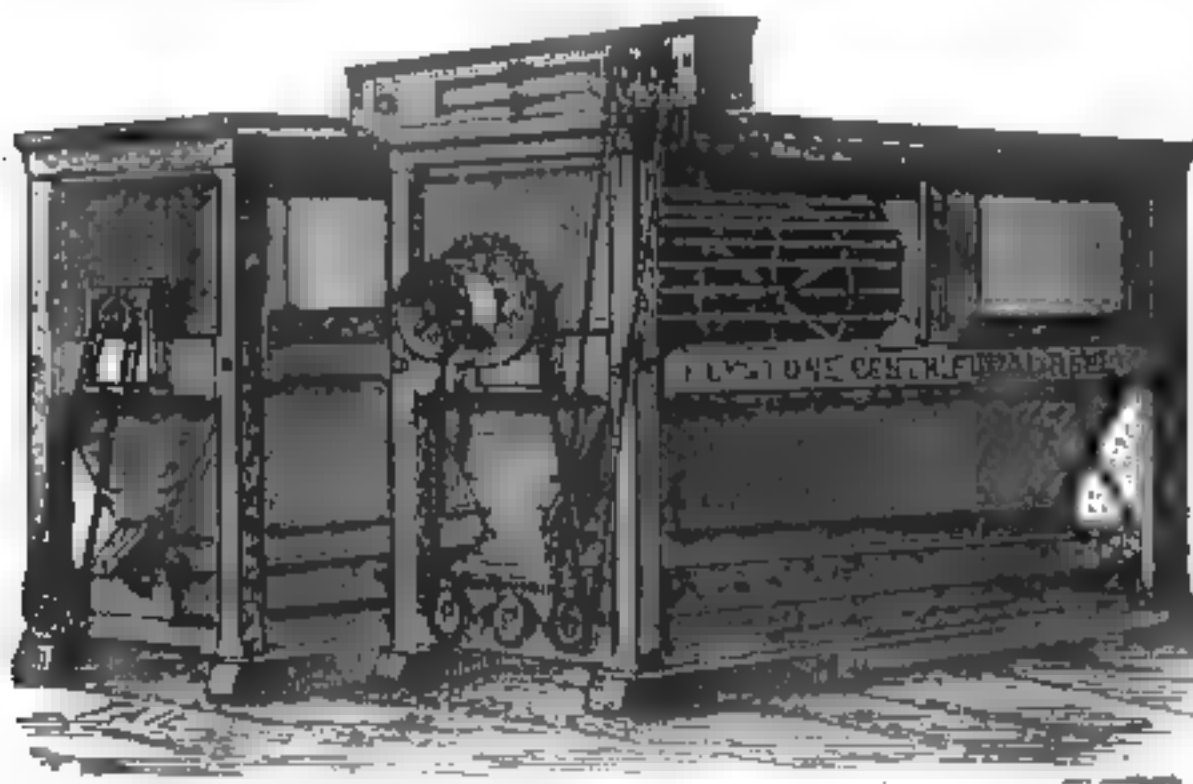


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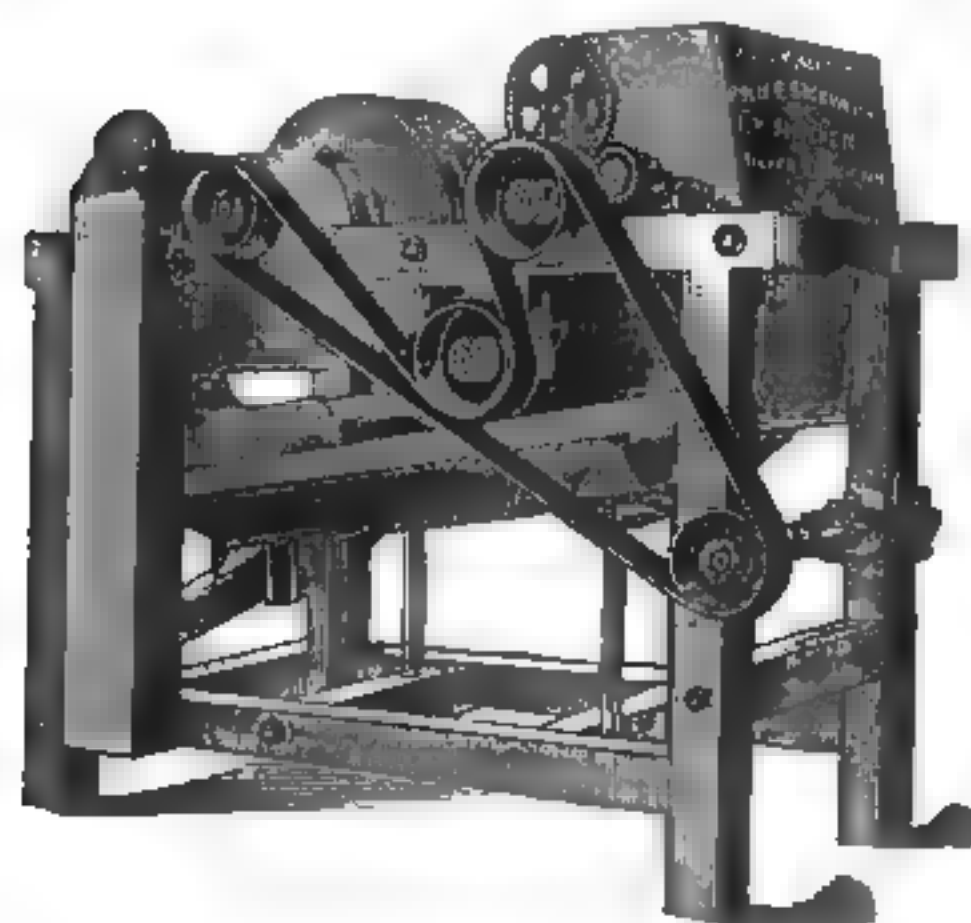
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ROLLER MILLS, SCALPING REELS, PULLEYS, SHAFTING AND ALL KINDS OF MILL IRONS.

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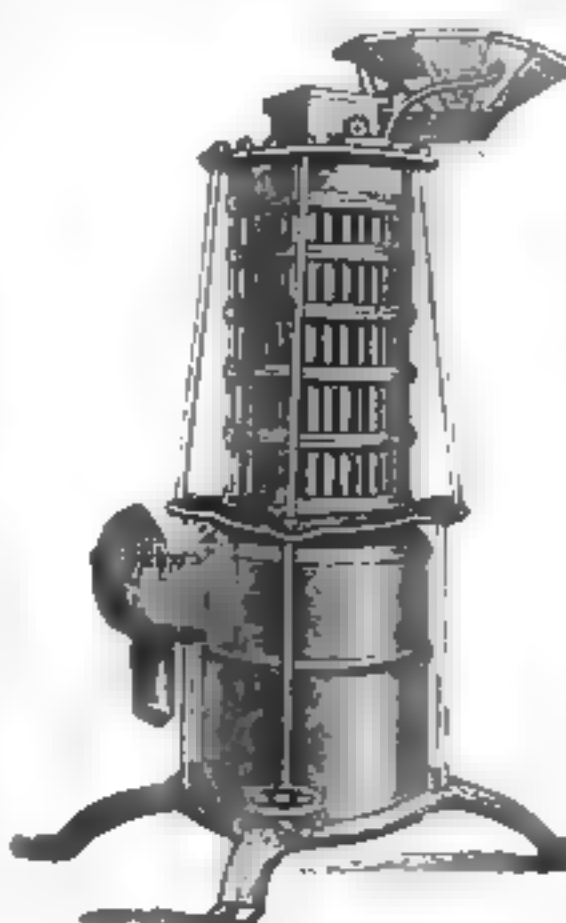


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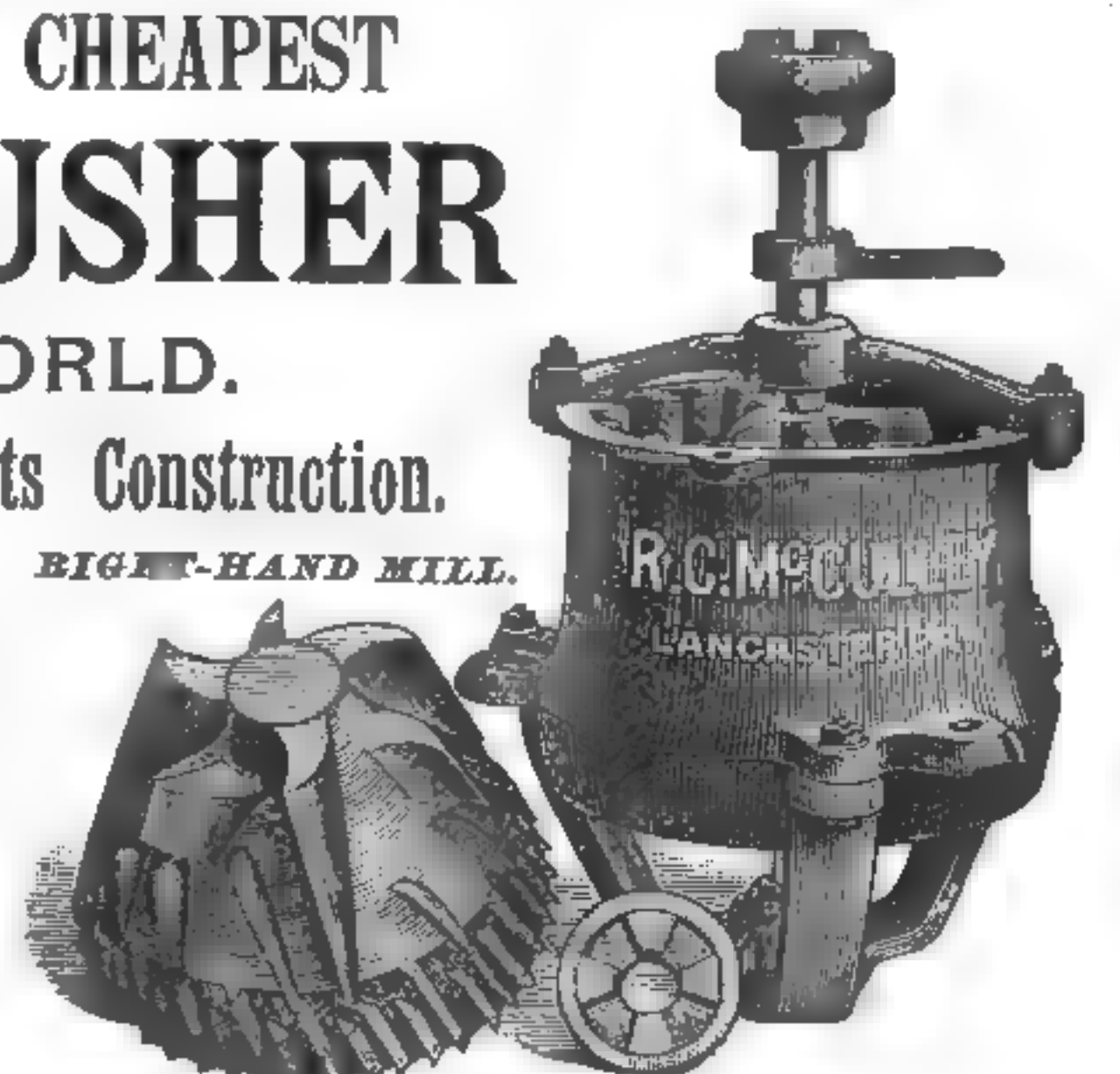
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Thousands of these Crushers are now in use, and giving entire satisfaction.

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NOTES.

Fears are expressed in some German advices that if the Protectionist Party obtain a majority in the next German Parliament, the duty on imported wheat will be raised from 10 to 20 marks per 1,000 kilogrammes.

French papers state that the Custom House revenues at Marseilles have decreased during the month of July to the amount of 18,000,000 francs as compared with corresponding periods of former years. This decrease is principally due to the disturbed commercial conditions on account of the cholera.

Of the 12½ million bushels of wheat on passage or shipping, for Great Britain on Aug. 18, Australia still heads the list with about 700,000. The two Mark Lane markets of Wednesday and Friday were thinly attended and without common spirit: opinion is cut adrift to float where the current carries it.

The cultivation of wheat from seed brought from the United States has been tried at Mantanzas, in Cuba, we are told, with very satisfactory results, and it is probable that an attempt will be made to grow that grain on a large scale. The successful cultivation of wheat in that zone would without doubt be of great benefit to the inhabitants of the greater Antille.

As a circumstance bearing upon the recent discussion on the merits of porcelain rollers, it is worthy of mention that Ignatz Seidl, the celebrated miller of Trautmansdorf, Austria, has just added to his plant twelve Victoria porcelain roller mills. Mr. Seidl makes flour perhaps second to none in the world, and his appreciation of the porcelain roller mill is noteworthy.

The international corn market opened at Vienna on Aug. 23. The official returns for the crops in Austro-Hungary show: The wheat crop is a little over the average yield, and the quality is fluctuating. Rye is below the average quality. Oats are excellent. The maize yield is medium. The wheat available for export amounts to 3,000,000 metric cwt., corn to 4,000,000 and oats to 2,000,000.

A rare celebration took place on July 27 in Germany which deserves more than a passing notice. In the so-called Roellig-mill, situated near Kleingieshübel, the owner celebrated on the above-named day the three-hundredth anniversary of the ownership of the mill by his family. On July 27, 1584, Peter Roellig purchased the mill and for twelve generations it has passed from father to son. This is a record worthy of contemplation.

Bread-making just now should be profitable, says *The Miller*, yet bakers are as reserved as millers will let them be; and retail buying is scarcely freer than wholesale selling, both being vexatious and small. Country millers seem well satisfied with their prospects of getting delivered into their mills local supplies of excellent wheat, already in fair condition, at 35s. to 40s. per qr., whilst town millers are getting a choice of cheap wheat, which should enable them to compete successfully even with American grinders.

The following statement of imports of grain and provisions at Liverpool is compiled from the circular of John Bingham & Co. of August 15, and is for seven months, ending July 31:

	1884.	1883.
Wheat, cwt	24,956,334	36,983,074
Flour, cwt	8,763,570	10,107,090
Corn, cwt	16,488,984	19,494,664
Beef, salted, cwt	121,489	155,784
Pork, salted, cwt	176,455	193,007
Hams, cwt	377,805	358,423
Bacon, cwt	1,636,078	1,705,036
Lard, cwt	442,129	501,296

An interesting report on the state of the South German trade in cereals during the months of June and July is published. It is stated that at the commencement of June the stocks of German grain were already exhausted, and large quantities of foreign cereals had consequently to be imported. The arrivals at Mannheim were never larger than they were during these two months; but, on the other hand, dealers had never more reason to complain of the results of activity in business, for they were compelled to sell the grain with scarcely any profit. The imported grain was principally derived from Northern Russia, but large quantities were also imported from North America, La Plata and India. The outlet was represented by South Germany, Switzerland, the frontier provinces of France, and the Tyrol.

Under the heading of "Our Outlook Abroad," *The Miller*, London, under date of August 25th, says: "In India, the holders of wheats continue

firm, which fact, when taken in reference to English prices, implies very limited exports." Indeed! Again: "In South America, little appears to be doing. From Valparaiso we hear that stocks of wheat at shipping ports are very nearly exhausted, and that little will be available for export until the new crop is reaped in January next." Again: "The large shipments which some persons expected would be made from the Argentine Republic, do not appear to be taking place." Once more: "It must be noted that a large discount has to be allowed for damaged wheat in New Zealand, so that shipments between the present date and December 31, will fall considerably short."

The following abstract from the report by Mr. Proctor Baker, on the recent Technological Examination in milling does not convey a very favorable opinion of the English miller school: "Most of the papers display utter ignorance of the principles on which the action of the machines used is based, and indeed I can trace scarcely any indication of any study of the subject beyond the observation of the working of machines in mills. The attempts at drawing are very few, and with one or two exceptions are ludicrously bad. The importance of the possession of the power to make intelligible drawings, to men who have constantly to give instructions to millwrights and others, for repairs and alterations of machinery, cannot be over-estimated. Let us hope that the future will bring the needed improvements."

The recent Annual Commercial Reunion, at Chartres, France, was followed by a banquet, presided over by Mr. Truffault, a well-known miller at Maintenon. This gentleman evidently grasps the present situation of millers in France, for, remarking upon the urgent necessity of improving their machinery, he said that when a revolution threatened it was useless to fold one's arms and wait for the result; if, said he, we do this we shall soon be swamped; we must go with the tide, and not allow it to get ahead of us. Speaking of the demand for protective duties on imported flour he ridiculed the idea, remarking that only 350,000 to 400,000 quintals of flour were imported into France. There were, however, two enemies to their industry; one is over-production, and the other is monopoly in the shape of the Paris "Nine Marks" flour market, which allows a certain quantity of inferior flour to be delivered as type flour, the market for which guides other qualities. Mr. Truffault remarked that at the present moment there are 150,000 sacks of flour in warehouses in Paris absolutely bad in quality, and which will probably remain there for some time, and serve to rule the value of flour in Paris.

The present season, statistically speaking, says the *Millers' Gazette*, is remarkably like that of 1882-83, in which year the crops nearly all over the world were above an average; America had as large a crop then as now; the English crop was about the same as expected this year, viz.: 10 to 10½ million quarters; France gathered 10 to 15 million hectoliters more in 1882 than she expects this year; Hungary had a crop about 50 per cent. above this year's probable yield; Russia had a full average crop, and India supplied as much in 1882-83 as she may be expected to supply in the season of 1884-85, viz.: nearly 3½ million qrs. Australia alone had a poor crop in 1882. Stocks in first hands in the Great Britain were but little less than they are now; the quantity on passage is considerably less now than at this time in 1882, and the "visible supply" in the U. S. is very little more now than it was then, whilst, above all, the reserve stocks on hand in the consuming countries are but little larger now than at that time; and yet prices are on the average about 10s. per qr. lower at the present time than on August 25th, 1882. Nevertheless, the trade is asking itself whether, even after the recent great decline, still lower prices are not to be expected; there must be a bottom limit, and it must be somewhere near now.

The complete volume containing the results in detail of the experiments in the various systems of milling in France last year, has at last been published, and although several of the leading systems did not enter for the competition, the volume in question forms a very interesting work. Amongst the competitors were that of Rose Freres, Paris, which is on Higginbottom & Stuart's disc mill system, and Ganz's roller system. Not the least interesting portion of the work is that treating of the power consumed by the various machines and systems, by Mr. Grandvoinnet, and the chemical analyses of all the products made by Mr. Aime Girard. In economy of power the roller mill system of Mr. J. M. Simon, Metz, is placed first; Mariotte Freres, of Vereux, with their horizontal disc mill system, coming second. With regard to purity and whiteness of the flour, Mr. J. M. Simon again bears off the palm, Mr. Gillet (Ganz's roller system) being second. The gluten test put Rose Freres' vertical disc system first, and Mariotte's second; in color and quality of the bread made from the flour, J. M. Simon again comes off first,

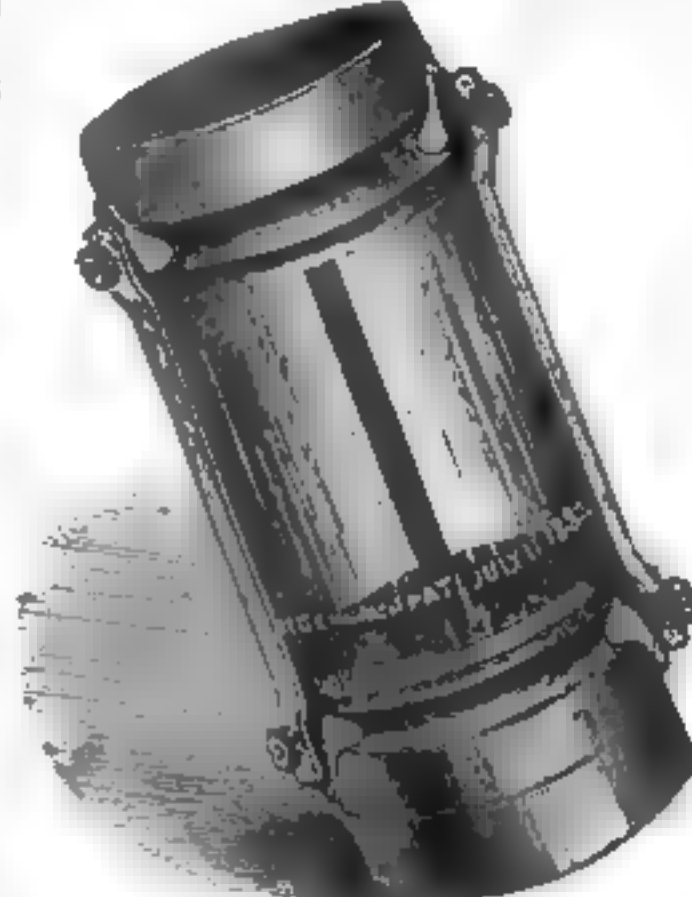
and Gillet second; whilst in the yield of bread, Mr. St. Requier, with his decorticating and cutting and granulating the wheat is first, and Mr. Fauqueax, whose system is gradual reduction by millstones, is second. In power consumed, and color of the flour and bread, the roller mills are therefore victorious; while the gluten test gives the palm to the discs.

A recent issue of the *Dublin Freeman's Journal* has the following: "No wonder the Americans can send us flour at lower prices than we can manufacture it here. The American article, according to the latest disclosures, is composed to a great extent of wood. The process of making 'wood flour' is simple and inexpensive. A mill is established near a river where there is usually a considerable growth of poplar, or other soft wood trees. The trees are felled, drawn to the mill, and passed through a machine, which first cuts them up into shavings, and finally grinds them into a fine dust. This dust is of an extremely delicate yellow tint, and is almost inodorous. In one part of the Catskills, where the poplar is largely found, several mills are in full working order, and their number is rapidly increasing. The product is despatched to the buyers in bags, and, needless to say, that their destination is kept secret. Wood flour can be produced at less than one-quarter the cost of the genuine article." These remarks are founded upon a letter which appeared in the *New York Sun*, says the *Millers' Gazette*. The *Dublin paper* has evidently made too much of this matter, which it has treated unthinkingly. Apparently wood flour is made and used for certain purposes, but there is nothing in the original report to warrant the assumption that wheat flour is adulterated by its addition, an adulteration which would so easily be distinguished, and still less probability is there of any such adulterated flour being sent over here, where the first sack discovered containing this rubbish would lead at once to the collapse of the export trade of the particular party who consigned it, and who could be so easily traced.

A general national exhibition will be organized by the Hungarian Government, under the patronage of His Highness the Crown Prince Archduke Rudolph, to be opened at Budapest at the beginning of May next year. During the past ten years the development of agricultural matters has received great assistance from the Hungarian Government, and this department will form an important feature at the exhibition, in order to show that the products of this country will now compare favorably with those from abroad, and at the same time open up means for the exportation of home products without any disadvantages or obstacles. In addition to the exhibits of a national character, there will also be exhibitions partaking of an international character, such as engines and tools suitable for special trade; also sections for agricultural seeds, cattle food, and other substances, as well as for agricultural machines of the latest and most improved construction; and also for important patented inventions and improvements. Certain general regulations for these proposed sections have been laid down and embodied in a prospectus, which has been issued from the Commercial Department of the Austro-Hungarian Embassy. The prospectus states that the Grand Commission of the Exhibition hope that the foreign exhibitors of engines, tools, and agricultural implements as well as the possessors of foreign patents, will embrace the opportunity offered to them, the more so as every possible facility will be given them to profit by not only the general advantages which the exhibition may offer, but also by the prospect of having opened up to them a market, not only in Budapest and Hungary, but even further abroad, and give them the opportunity of carrying on large business transactions. The General Commission of the Exhibition is under the direction of M. Matlekovits, Chief Secretary of the Ministry of Agriculture, with Count Aug. Zichy, as vice-president, supported by a large number of distinguished personages. The buildings and grounds will occupy an area of 270,000 square metres, and will be erected in a suitable manner.

GEHRICH'S PATENT GLASS TUBE JOINTS

AN IMPORTANT INVENTION FOR MILLERS.



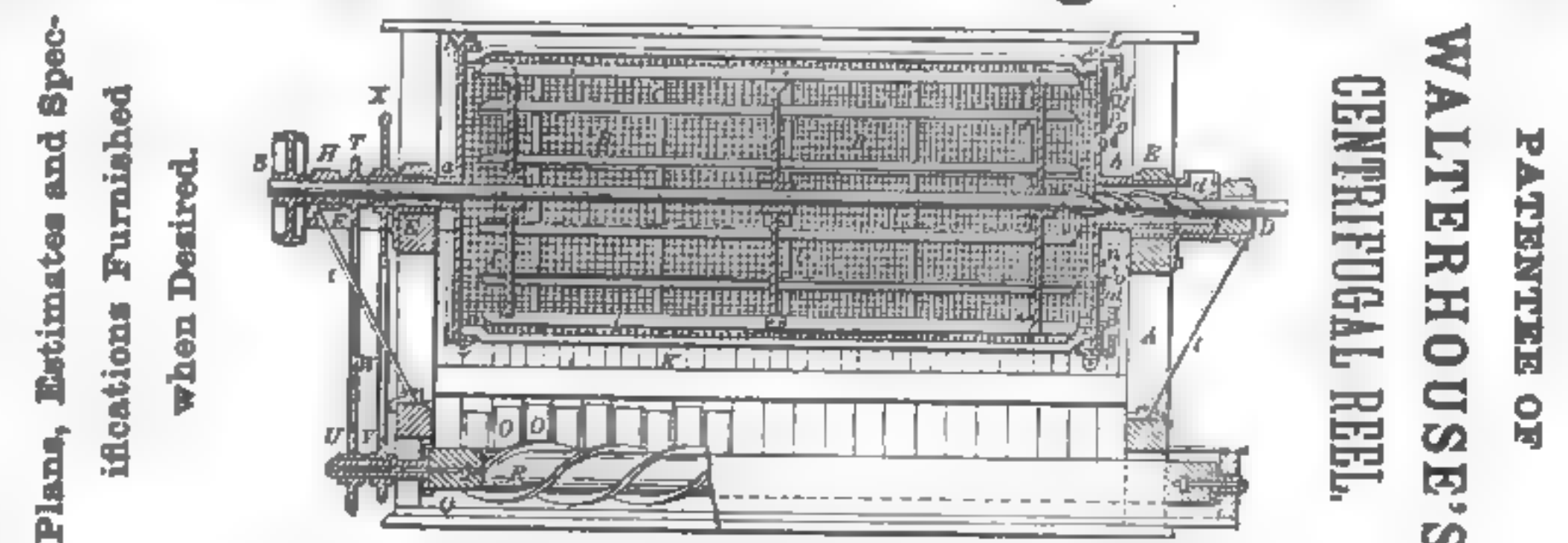
This invention consists of a Glass Tube Joint, which can be made to correspond in size to and be inserted in any tin spout used to convey grain, meal, etc., in the operation of Grinding Flour and other substances. A section of the spout is thereby *Rendered Transparent, enabling the miller, or any one passing by, to see at a glance whether the contents of the spouts are properly running.* By the use of this appliance the necessity of frequently opening spouts is avoided, and the consequent saving of time and flour is very important in an economical point of view. These Glass Tube Joints have given the most complete satisfaction, and are esteemed as an indispensable requisite wherever they have been applied. Full information furnished on application to the inventor.

H. GEHRICH, 54 Rutgers St., NEW YORK CITY.

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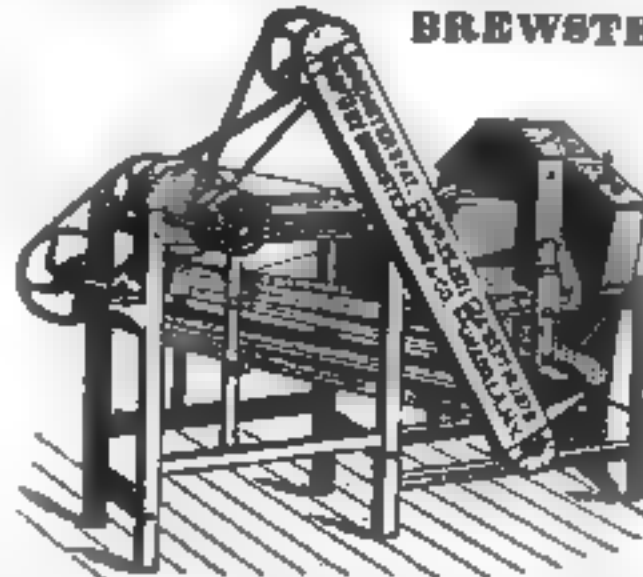
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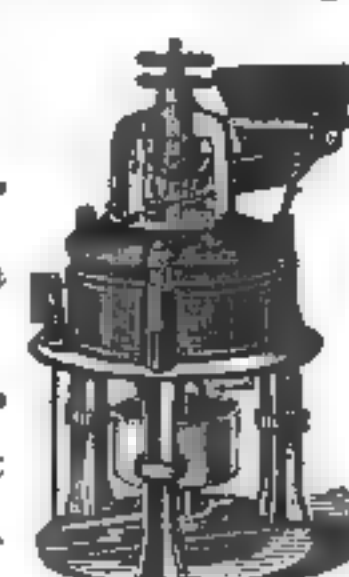
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Buckwheat Refiners & Portable Mills



BREWSTER'S CELEBRATED
Buckwheat Refiner
Is the only machine whereby the greatest yields of
PURE, WHITE
SHARP FLOUR
can be obtained.
The only reliable, practical and durable machine
IN THE WORLD.

THE POSITIVE ADJUSTMENT
AND AUTOMATIC
MIDDINGS MILL
Is Strictly Self-Protecting
The Best Adjustment in
the World.
And the only
Perfect Granulator
Grinds Cool, Self-Oiling, Great
Saving of Power.
Simplicity and Durability
Combined.



Satisfaction Guaranteed on all our Goods. Send for Descriptive Circular, giving Prices, Sizes, Terms, etc.
BREWSTER BROS. & CO. Unadilla, N. Y.

HE LAUGHS BEST WHO LAUGHS LAST.

WE CONSIDER THE FOLLOWING TESTIMONIALS CONCLUSIVE EVIDENCE THAT

Our Turn to Laugh Heartily and Long Has Come

THE MILLER CO., CANTON, O.

In answer to your inquiry of 10th inst. requesting our opinion as to the merits of the RIDER SYSTEM AND BREAKS, permit us to most heartily and gladly compliment your system (Rider), and the Rider Breaks. We are more than pleased with your System, and as to the Rider Breaks we will say they are the acme of success. WE WOULD NOT BE WITHOUT THEM. We can see great success for your System and Breaks in the future.

They have only a 10x20 Engine, and are making 100 Barrels per Twenty-Four Hours, and are 1,800 Barrels behind orders.

CANTON, OHIO, Aug. 15, 1884.

CORL & BLAKE.

THE MILLER CO., CANTON, OHIO.

Gentlemen: Please find enclosed Check for \$144.22 in full of account on contract. We have been running your machinery for the past five months, and it is giving entire satisfaction. The Rolls run nicely and the adjustments are good. THE BREAK MACHINES GIVE US NO TROUBLE AT ALL. WE THINK THEY ARE THE BEST BREAK MADE. We also think your Milling Engineer, Mr. Rider, is an expert in his profession. We wish you much success. Yours truly,

FLUSHING, OHIO, Sept. 3, 1884.

STRATTON, STANTON & CO.

This Mill has a Capacity of 75 Barrels.

WATCH FOR NEW TESTIMONIALS AS WE HAVE A SURPLUS.

Order a SAMPLE BAKING from THESE MILLS and CONVINCED YOURSELF OF WHAT WE SAY.

THE MILLER COMPANY, CANTON, O.

MANUFACTURERS OF THE RIDER BREAK AND MILLER ROLLER MILLS.



CORN & COB CRUSHERS

PRICE, \$15.00.

Send For Circular.

SHAFTING, PULLEYS & HANGERS.

Pulleys a Specialty, Large or Small. Address,

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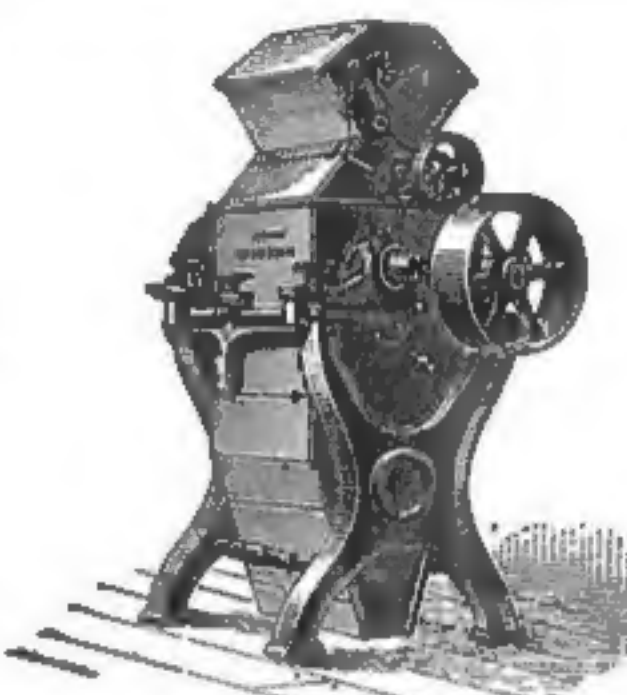
The Simplicity so long sought after in Roller Mills attained at last.

ONE, TWO, OR FOUR BREAKS IN A SINGLE FRAME

SIZES OF ROLLS 9x18 and 7x14 INCHES.

NO CROSS BELTS. NO FRICTION. NO LOSS OF POWER.

Reduction Rolls, Bolting Cloth, Purifiers, Middlings Mills and Bolting Chests. General Mill Furnishing Supplies.



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PATENT MILLSTONE CEMENT

Invaluable to Millers for Repairing and Filling the Joints, Cavities, and Seams in French Burr and other Millstones.

PRICE PER CASE, \$5.00. SEND FOR CIRCULAR.

Union Stone Co., 38 & 40 Hawley Street, Boston, Mass.

Union Emery Wheels, Emery Wheel Machinery and Tools a Specialty. Wooden Polishing Wheels, Grinders' and Polishers' Supplies. Catalogue on Application.

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MANUFACTURERS OF

Munson's Celebrated Portable Mills, FOR WHEAT, MIDDINGS, CORN, FEED, Etc.

Millstones, Hangings, Bolting Chests, Shafting, Gearing, Pulleys, Hangers, Etc.

DEALERS IN EVERY KIND OF

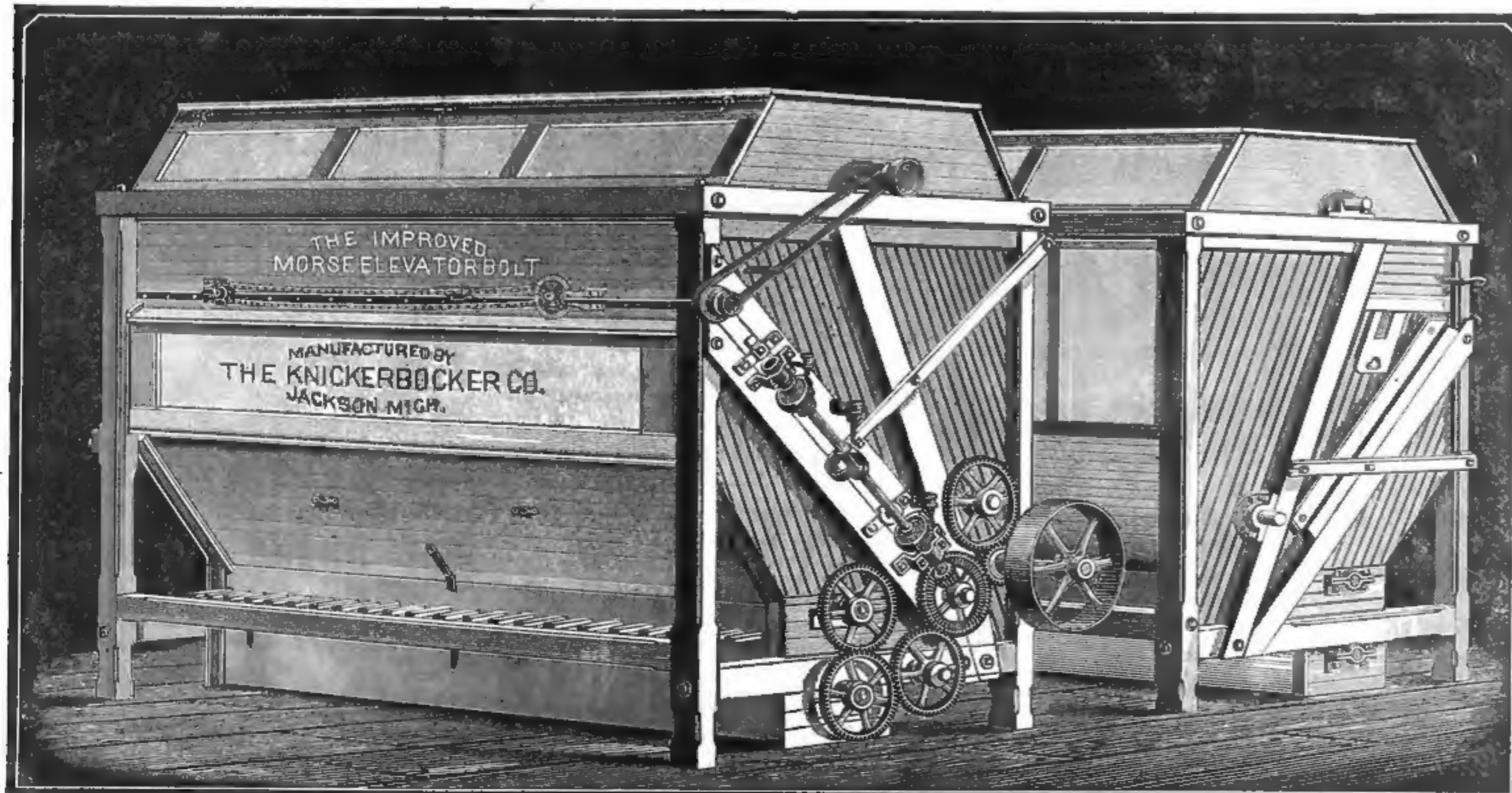
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Specifications, Estimates and Plans furnished.

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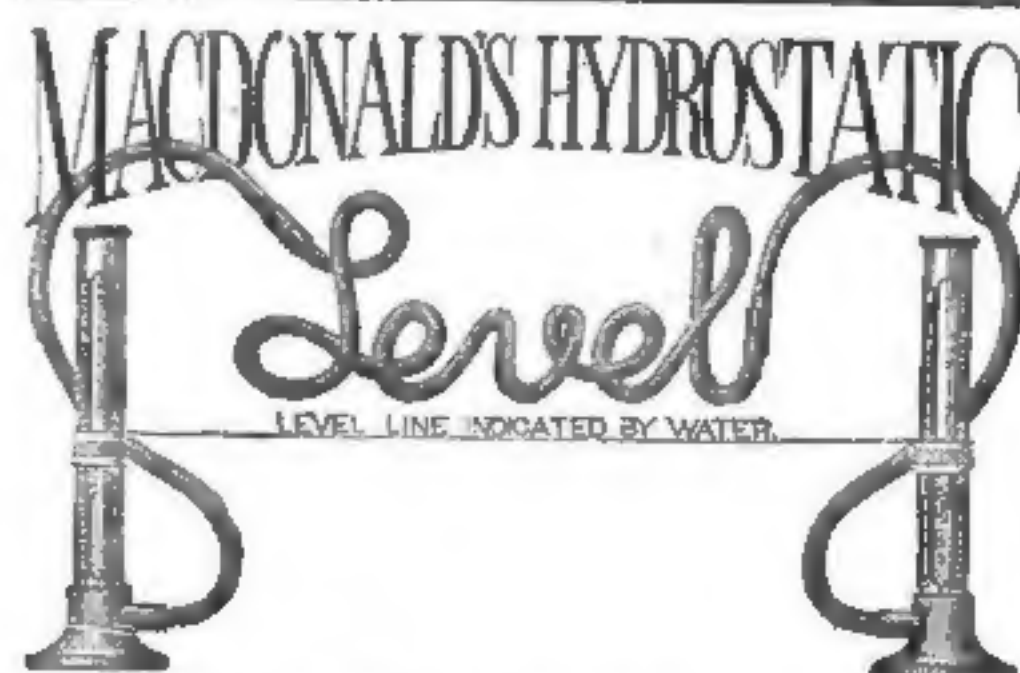


DEMONSTRATED IN OVER 100 MILLS TO BE THE BEST BOLTING DEVICE KNOWN.

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A tool for Cutting, Leveling and Polishing the Furrows and Face of Millstones. Eight inches long, 2 1/4 inches wide, 1 1/2 inches thick. Received the highest and only Award given to Polishers at the Millers' Exhibition, Cincinnati, Ohio, June, 1880. For facing down high places on the burr, this tool has no equal, and can be done much better and in one-sixth the time than with the mill pick. It is much larger, cuts better, can be used on either face or furrow, can be used until the corundum is entirely worn out on one side and then turned on the other side. Has over four times the amount of corundum and when the corundum is worn out can be replaced in the handle at a small cost. Sent by express, \$3.50. Satisfaction guaranteed, or money refunded. Address HORACE DEAL, Bucyrus, Ohio.



For leveling shafting it is invaluable. Applied to any two points regardless of distance and obstructions that may be between. Send for circular. Jas. Macdonald, 55 Broadway, New York.

HAS BEEN AWARDED
FIRST AND ONLY PREMIUM
AT THE
Millers' International Exhibition.



Office of THE MILLING WORLD.

Buffalo, N. Y., Sept. 17, 1884.

The wheat market, as has been the case for several weeks, is of a decidedly unsteady character, but fluctuations are slight either way, and activity is practically an absent feature. Advices from the Continent report for the moment steadier grain markets. Private advices from Europe talk both ways. The ones of a more hopeful nature are in the minority. Receipts at the interior are showing a lighter run of winter wheat and a larger run of spring wheat. The Chicago calculations show an increase in the visible supply of grain: Of wheat, 1,100,000 bushels; of corn, 494,000 bushels, and of oats, 633,000 bushels.

There is a better inquiry for flour, especially for good bakers', and at prices ruling about steady. The English reporters are figuring for lower prices, to conform to the reduced limits, which they report. They get no concessions from holders. The Continental demand is moderate. There is a fair demand from the tropics, and the city millers and the receivers who handle flour of kindred quality are pretty busy. The provincial demand is quiet. Rye flour is dull and irregular, with a continued tendency downward. Corn goods are unsettled in value by the sharp fluctuations in the price of corn. Mill feed is rather steady, with demand moderate and offerings fair.

BUFFALO WHEAT MARKET.

Buffalo, Sept. 16, 1884.

Our wheat market the past week has been very dull and although prices are lower than they have been since '51, buyers hold off and speculators have no confidence in the future. Our millers hold about all the old wheat here, therefore it is out of the market. New No. 1 hard is selling at 86c; No. 2 hard 82c; No. 1 regular 82c; No. 2 regular 77c; No. 2 red held at 84c; longberry 86c; No. 1 white 86c; No. 2 81c. Corn in good demand for car-loads and very little here for sale. No. 2 held at 61c; No. 3 57c. Lower grades sold 54c. Oats very little doing, car-loads on track selling 32c. Other grain nominal. We append, as of interest at this time a statement of the movement of Duluth wheat from Sept. 6th, 1883, to Sept. 13th, 1884.

Crop of 1883.

Shipped from Buffalo to eastern markets,	1,883,887 Bush.
Taken for home use and interior trade,	3,745,486 "
Total receipts at Buffalo,	5,629,373 "
The shipments from Duluth to Canada Ports was	1,017,125 "
To Erie, Toledo, Detroit and Milwaukee,	284,500 "
Total shipments from Duluth to eastern markets,	6,930,998 "

JAMES S. MCGOWAN & SON.

BUFFALO MARKETS.

FLOUR—City ground clear Northern Pacific spring \$4.75@5.25; straight Northern Pacific spring, \$5.25@5.75; amber, \$5.25@5.50; white winter, \$5.25@5.50; new process, \$6.25@6.75; Graham flour, \$4.50@5.25. Western straight Minnesota bakers, \$5.25@5.50; clear do, \$4.75@5.25; white winter, \$5.00@5.25; new process, \$6.25@6.75; low grade flour, \$2.50@4.00. OATMEAL—Ingersol \$5.75; Bannerman's \$6.00; Akron \$6.25. CORNMEAL—Market steady, with a fair demand. Coarse, \$1.15; fine, \$1.25 per cwt. RYE FLOUR—In fair demand \$4.00@4.25. BUCKWHEAT FLOUR—Demand fair at \$3.50 per cwt. WHEAT—Dull. Sales two car-loads No. 1 white winter at 82c. For No. 1 hard Northern Pacific, at the Call Board, 80c asked, 85c bid cash and Sept.; 88c bid November; 87c bid Dec. 78c asked year. CNRN—Lower. Sale three car-loads No. 2 at 59c. No. 3 nominal at 34c. OATS—Mixed Western nominal at 30c, No. 2 white do at 32c. BARLEY—Season over; market nominal. RYE—No. 2 Western 60c; State 55c.

FOREIGN EXCHANGE.

The market for sterling was dull and comparatively featureless. In nominal rates there was a reduction to conform to actual business, owing, however, to the heavy dull tone, and not to any

DUFOUR & CO.'S CELEBRATED BOLTING CLOTH.

increased offering of bills. The posted rates closed at 4.83 for sixty days' and 4.85 for demand. The actual rates ranged: At sixty days' sight, 4.82½@4.82½; demand, 4.84½@4.84½; cables, 4.84½@4.85, and commercial, 4.80½@4.81½. Continental exchange very dull; francs, 5.217½@5.193½; reichmarks, 94½@94½ and 95@95½; guilders, 397½@40½. The closing posted rates were as follows:

	60 days.	30 days.
London	4 88	4 88
Paris francs	5 20	5 17½
Geneva	5 19½	5 18½
Berlin, reichmarks	94½	95½
Amsterdam, guilders	40½	40½

LOW PRICES FOR WHEAT.

Every one who pays any attention to commercial matters must be aware that within the past week the price of wheat has depreciated fearfully. The greatest expectations of the prophets have in most cases been more than realized, and cash wheat yesterday reached 76½c, the lowest point this season. On 'Change the discussion of the commercial situation was naturally at its height, and many were the comparisons and reminiscences indulged in by the older merchants and those who had been longest on the floor of the Exchange. Hearing a remark to the effect that wheat had touched the lowest point since 1850, a *Globe-Democrat* reporter sought out Mr. Alex. Smith, a gentleman who has been in the flour business in this city for a great many years past, and asked him how far back his memory could carry him on the subject of grain values.

"I can remember," said Mr. Smith, "with more or less distinctness, fully as far back as the year 1850, and I have no distinct knowledge in all that period of a time when cash wheat equal to our No. 2 sold as low as that grade sold to-day. I remember, in fact, one time in the fifties when it sold about as high as I have ever known it. I sold one lot of fine wheat, I remember, at the time of the Crimean war, to John J. Roe for \$1.73 a bushel. He afterward sold it to T. A. Buckland for \$1.50, and I believe he lost money on the flour he made from it, so you see the trade was a fortunate one for me."

"How cheap has wheat sold within your recollection?"

"I remember buying some good milling wheat in 1861 at 60 cents on the levee. That was good wheat, but not equal to our No. 2 winter, and I have no recollection of a time when wheat as good as ours sold for less money than it did to-day."

Another miller, one of the oldest in the business, said: "I was in the grain business in Chicago in 1856, and in that year or the next I sold wheat at 51c@53 cents. At that time you know there was no grading of wheat. All wheat in good condition was known merely as 'wheat.' As such it was taken into the elevators, and as such it sold without sample. Thus when I say I sold wheat, I mean good marketable wheat, equal I should say to our No. 2 here. I remember at one time I had several hundred thousand bushels in Gibbs & Griffin's warehouse next door to Munger & Armour's, and sold it all one evening at 51 cents a bushel."

"How do prices of flour abroad compare with the price of wheat here?"

"Well, the expenses in sending flour abroad in sacks—say to Liverpool—are: Transfer to East side, 4c per barrel; freight to New York, 58c; ocean freight, 28c; to which landing charges must be added. A great deal of our St. Louis flour goes to Sligo and other points in Ireland, and I have been cabling these places with offers, but without success for some time. Yesterday I made an offer to a large buyer in Sligo of extra fancy flour (known brand) on the basis of \$3.75 a barrel in bulk. This morning I received an answer by cable that my offer was 13d too high; in other words, that the flour was worth to them \$3.45 bulk in St. Louis. That would necessitate my paying no more than 75 cents per bushel for wheat here, which would leave the farmer, say in Kansas, about 52 cents for the best wheat of his entire crop."

"Now take an example of flour at \$3.75, extra fancy. The sack costs 20 cents; inland and ocean freight, 86 cents; insurance, 3 cents; commission, 10 cents; discount on draft, 1 cent; transfer across the river, 4 cents; a total of about \$4.79, or about 20 shillings—that is, delivered in Liverpool. Now, here is the latest circular of a London house, quoting that same flour at just 18@20 shillings on the market, or on a basis of 65 cents for wheat

here, while the expenses incident to landing and storing it, etc., are such that it would cost us 20 @22 shillings to lay it down in that market. This shows that our price for wheat is high, as compared with foreign markets, and yet I can not see how the farmer in Missouri, Kansas and the other territory adjacent to us can raise wheat at an average of 45 cents a bushel, for if he gets only 50@52 cents for his best wheat, his total crop will not average more than 45 cents."

Eldridge Goddard, who is probably the oldest miller in St. Louis, when he heard the statement that wheat had not sold so low since 1850, denied the statement entirely.

"I remember the time," he said, "when I bought wheat equal to our No. 2 on the old Exchange at 63 cents, and sold the flour I made from it at \$6.25 per barrel. And these cheap periods were not short, but stretched over an entire season."

FIRST AND ONLY PREMIUM
OVER ALL COMPETITORS!
PURCHASE ONLY
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SHIPPING AND COMMISSION MERCHANTS.
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ADAPTED TO ALL KINDS OF DRESSING.

No. 1, to face and crack	\$38.00
No. 2, to face, crack, dress furrows, and will dress any size stone	45.00
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Will do as good work, and is more easily adjusted than any other machine. Sent on 30 days' trial. Address for circulars, containing full information.

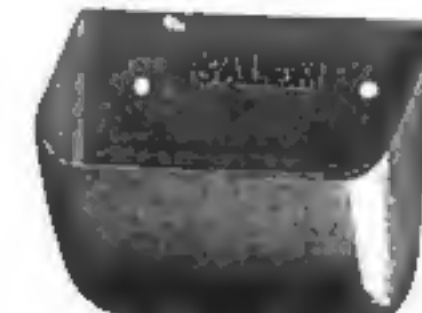
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SHOVEL EDGE

Seamless Rounded Corners

CURVED HEEL



RUNS EASY!

STRONG & DURABLE

EMPTIES CLEAN.

W. J. CLARK & CO., SOLE MANUFACTURERS, SALEM, OHIO.

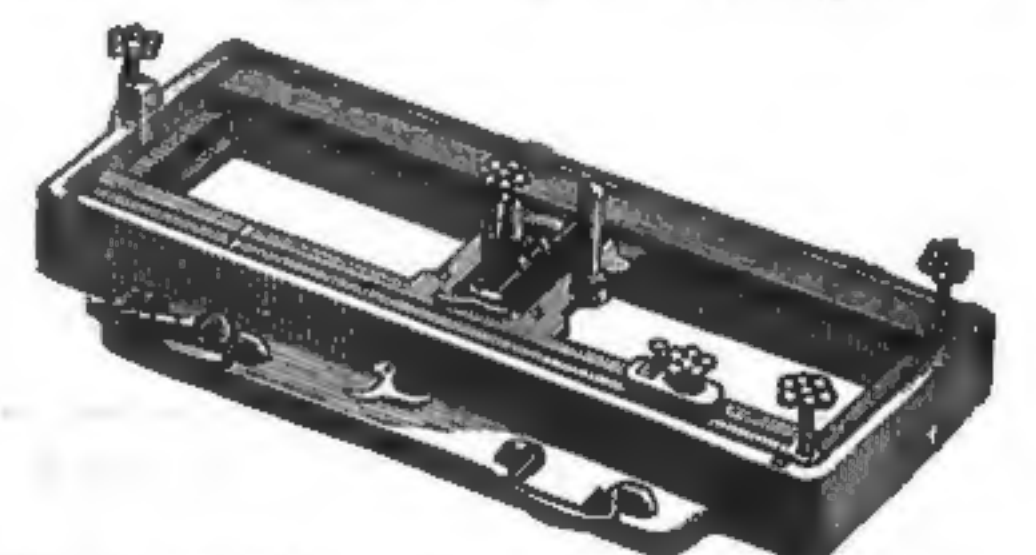
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TEETOR'S QUICK ADJUSTABLE DIAMOND DRESSER.



The A Machine. 39 inches long, 18 inches wide. Weight, 130 pounds. Same width carriage as the B machine.



The B Machine. 33 inches long, 19 inches wide. Weight, 165 pounds.

Automatic rod feed. A Revolution. Will cut over 1,000 cuts per inch, right or left, with one or two diamonds for facing. The only Practical feed, especially for deep facing, once going over. No tools required: Will Warrant Better Satisfaction, and More Work of all kinds can be done with less trouble than with others. The best of references given. Mechanics are much surprised as to their merit, and say it is "A Revolution." There has never yet been a call for repairs for any one machine. Have been in operation for over four years. Also a Perfect Diamond Holder. See a Machine shown by Thos. Bradford & Co., Exposition, Cincinnati, Ohio. Full descriptive circulars forwarded. Mention this paper.

C. A. BERTSCH, MANUF., CAMBRIDGE CITY, IND.

WIRE BOLTING CLOTH—STEEL, BRASS AND TINNED

ESTABLISHED 1844.

Exclusive Manufacturers of the
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Brass Duster Cloth, Plated Wire Mill Screen Cloth
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A full line constantly on hand. Send for samples and price lists.

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Builders from the Raw Material of

ROLLER MILLS, CENTRIFUGAL REELS, FLOUR BOLTS.

WE ARE THE SOLE OWNERS FOR THE UNITED STATES OF ALL THE PATENTS UPON THIS ROLLER MILL.

This Is the Only Roller Mill Made Having All the Essentials Needed In Successful Milling.

300 BARREL MILL IN MISSOURI.

Read what an Old Miller who has Thirty-Four Pairs of these Rolls in Constant Use, Says:

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: In regard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our average work is fully 38 per cent. over your guarantee. Since starting our mill last July we have had no complaint of our flour from any market where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston, Texas. Our yields are all that are attainable. We have tested it on both Spring and Winter wheats with satisfactory results on both varieties. Since the mill was turned over to us we have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights without shutting steam off the engine, not having a "choke" or a belt to come off. The mill is entirely satisfactory to us, and for a fine job of workmanship, milling skill and perfection of system, we doubt if it is surpassed in the United States to-day. It is certainly a grand monument to the ability and skill of Col. C. A. Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competitors, "You may try to equal, but you will never beat it." Wishing you the success that honorable dealing deserves, I am,

OFFICE OF DAVIS & FAUCETT MILLING CO.,
ST. JOSEPH, MO., Nov. 28th, 1883.

Yours, etc., R. H. FAUCETT, PRES.

300 BARREL MILL IN ILLINOIS.

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: We started up our mill in June last year, and it gives us pleasure to say that your Roller Mills are doing splendid work and give us no trouble. Your milling program required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United States at the highest prices offered for any flour. All the machinery made by you is first-class, and we would not know where to purchase as good.

OFFICE OF DAVID SUPPGER & CO.,
HIGHLAND, ILL., Jan. 10, 1884.

Yours respectfully, DAVID SUPPGER & CO.

123 BARREL MILL IN INDIANA.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: The 123 barrel All Roller mill you built us has been running all summer, and does its work perfectly. Before contracting with you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading mill-furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes fully up to your guarantee, and the capacity runs over your guarantee. The bran and offal is practically free from flour, and our patent and bakers' flour compares favorably with any we have seen elsewhere. I don't think anyone can beat us. Your Roller Machines are the best we have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommend other millers to place their orders with you.

LAPEL, MADISON COUNTY, IND., Jan. 10, 1884.

Yours truly, J. T. FORD.

Letters on file in our office from a large number of small roller millers giving as favorable reports as above. A portion will be published as occasion demands.

SPECIAL MILLING DEPARTMENT!

Mill Builders & Contractors--Guarantee Results

Motive Power and Entire Equipment of a Modern Mill Furnished under one Contract.

Toledo Mill Picks and Stone Tool Mfg. Co.

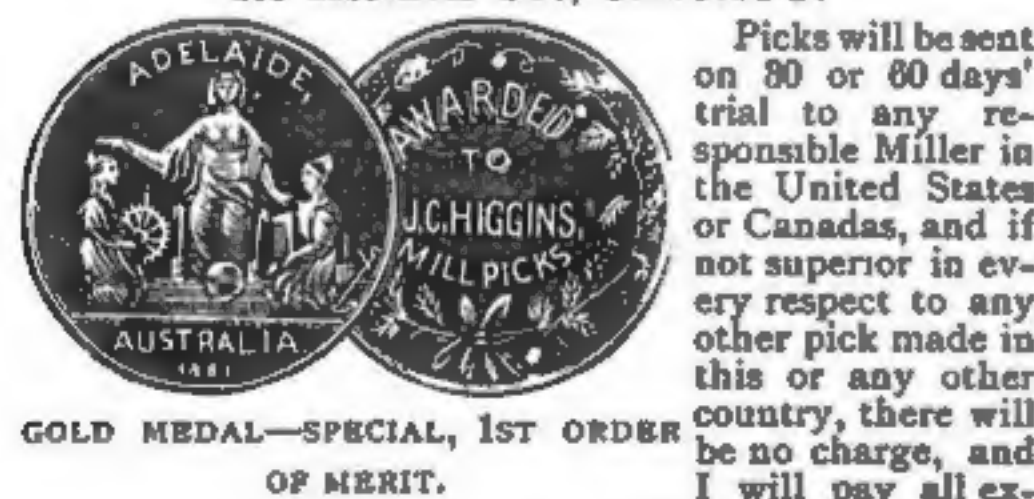
Manufacturer and Dresser of MILL PICKS.

Made of the very best double-refined English cast steel. All work guaranteed. For terms and warranty, address GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, O. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF
SHAFTING, PULLEYS, HANGERS, COUPLING
AND MACHINE JOBBING.

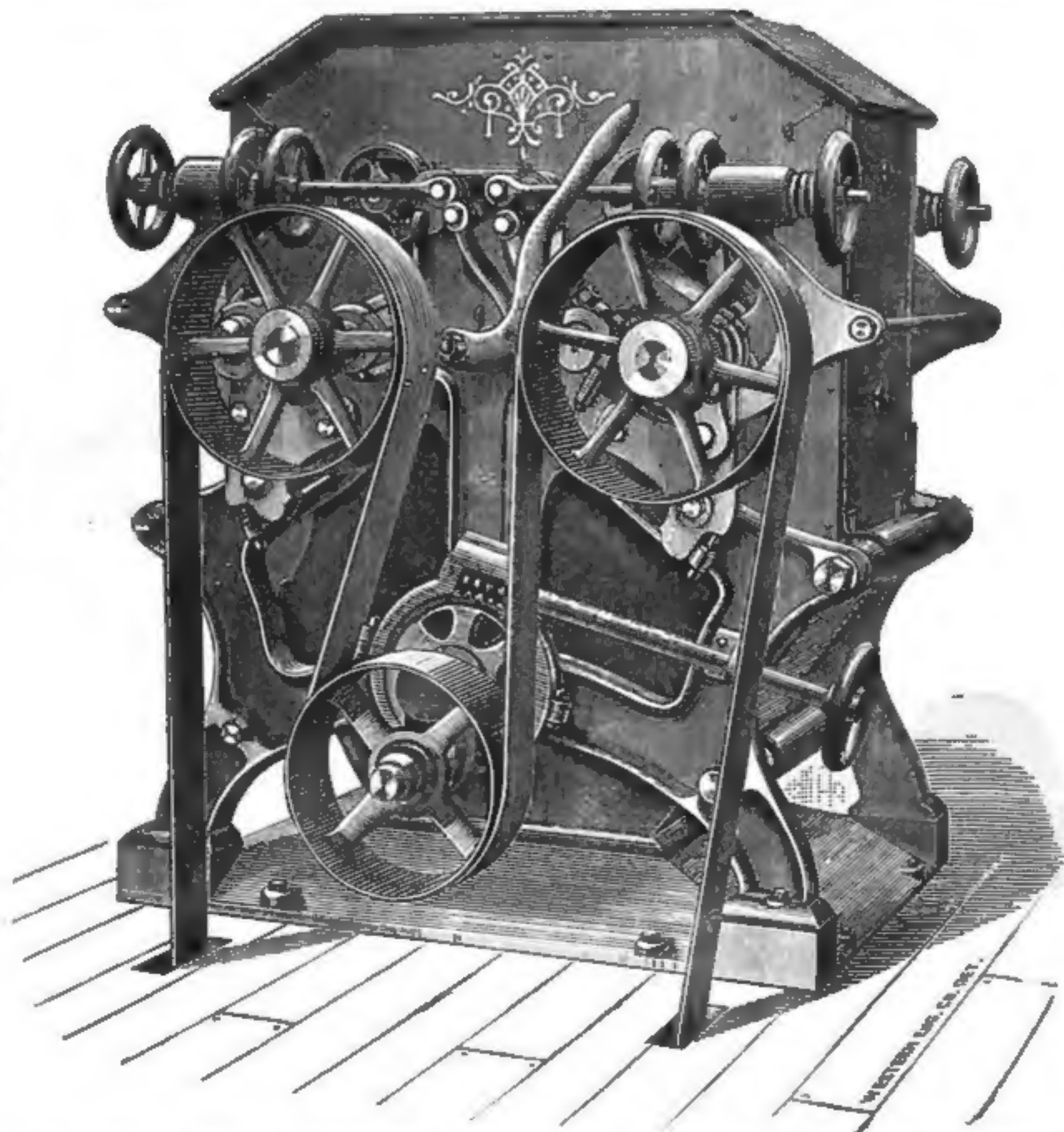
JOHN C. HIGGINS & SON,
Manufacturers and Dressers of
MILL PICKS.
103 KINZIE ST., CHICAGO.



Picks will be sent on 30 or 60 days' trial to any responsible Miller in the United States or Canada, and if not superior in every respect to any other pick made in this or any other country, there will be no charge, and I will pay all express charges to and from Chicago. All my picks are made of a special steel, which is manufactured expressly for me at Sheffield, England. My customers can thus be assured of a good article, and share with me the profits of direct importation. References furnished from every State and Territory in the United States and Canada.

Send for Circular and Price List.

The MILLER ROLLER MILL



Has no superior. Universal Tightener, Automatic Feed, Tight Base, Noiseless, with Non-Cutting Corrugations. We also manufacture the Rider Wheat Break, which has no equal for 1st, 2d and 3d Breaks. Send for Reference and Circulars of our Machines.

THE MILLER CO., CANTON, O.



AUTOMATIC SCALES & REGISTERS

The only perfect scales and registers in the world. Particularly adapted for millers' requirements.

SENT ON TRIAL.

Beware of Infringements

We guarantee the accurate performance of the scales and registers in every case. Send for circular, and mention THE MILLING WORLD.

THE M. F. KOCH MFG. CO.

63 Prince Street, New York.

MILL SUPPLIES { Everything Used in a Mill of Every Kind Always on Hand.

Leather Cotton Rubber } BELTING, BOLTING CLOTH
ELEVATOR BUCKETS, BOLTS, MILL IRONS, &C.

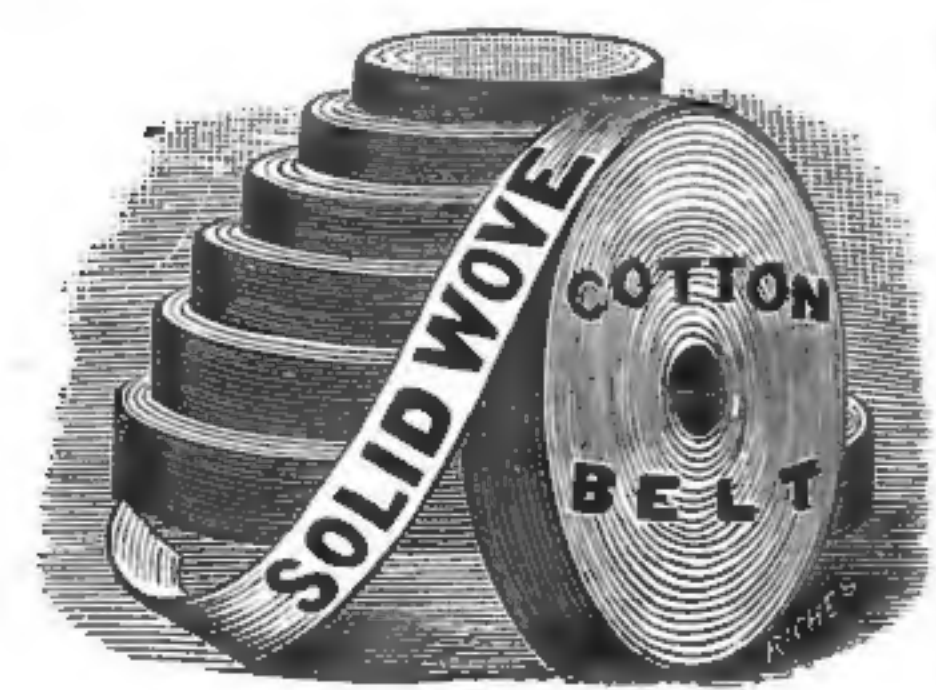
Prices Close and Quality the Best.

The Case Mfg. Co., Columbus, Ohio.

ROLLS RE-GROUND

And Re-corrugated to order. Porcelain rolls re-dressed. Our Machinery for this purpose is very accurate. Can do work promptly.

Case Mfg. Co., Columbus, Ohio.



ONE OF THE KIND OF MILLS WE BUILD.

LAURY'S, PA., SEPTEMBER 1, 1884.

THE JOHN T. NOYE MFG. CO., BUFFALO, N. Y.

GENTLEMEN: Since putting in the rolls made by you, and changing the bolting arrangements as advised, I have been running night and day, turning out over two hundred barrels of flour per twenty-four hours, with a yield surprisingly under $4\frac{30}{60}$. I doubt if our flour can be beat in this country. This statement is pretty strong, but can be backed up. I can clean the middlings so that there is not a particle of flour left. Millers coming here to see our offal, do not believe but I have some secret way of manipulating the material. It is all square milling on superior rolls and with a superior system. I could not fill my orders if I had double the capacity.

Yours truly, J. R. SCHALL.



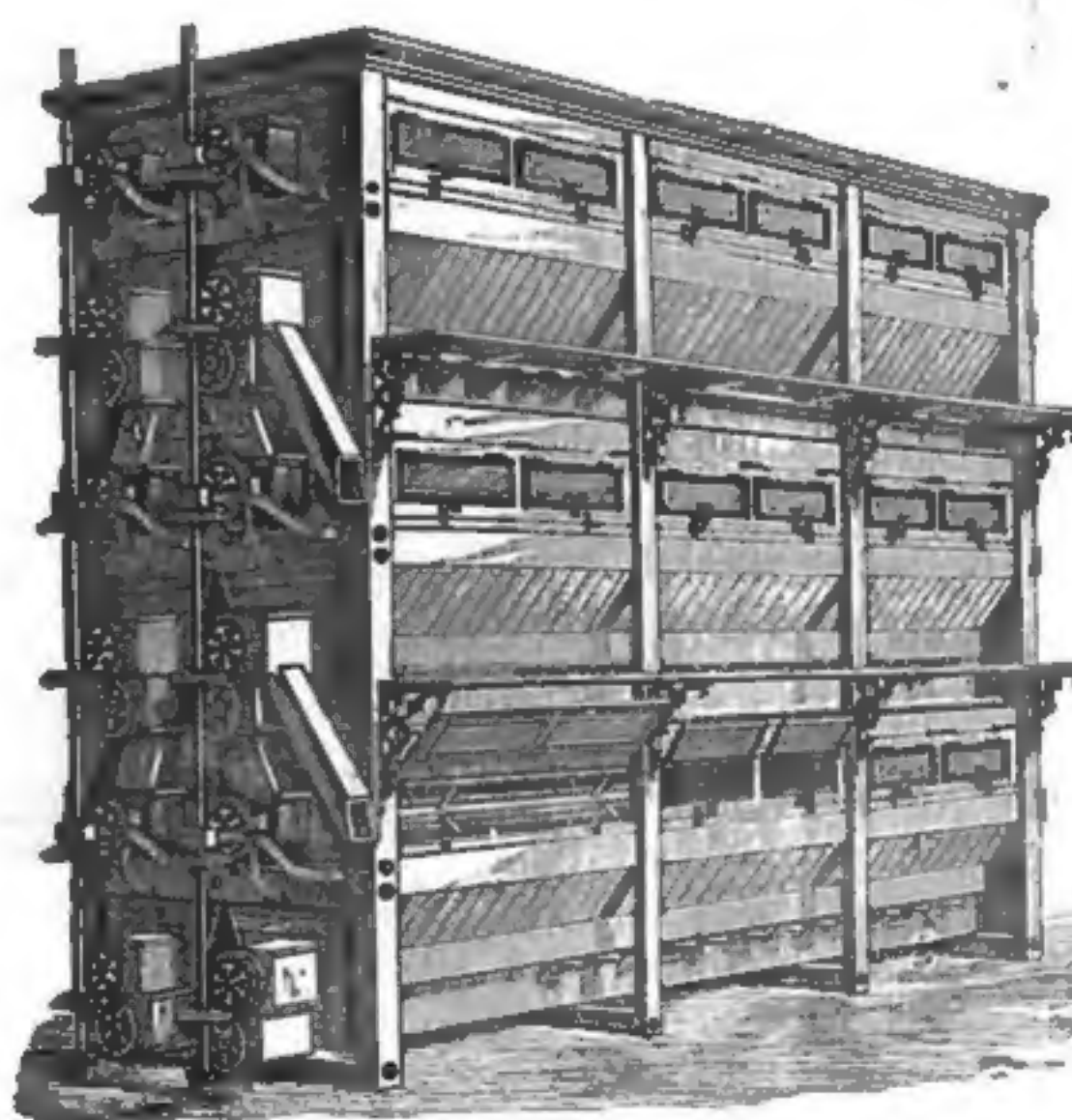
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